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1941

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The Front Cover

The cover this month shows director of photography Roy Hunt, A.S.C., visible under camera's matte-box, filming a dancing scene for RKO's "They Met In Argentina." Note use of small floodlamp directly over matte-box, and use of small dolly which permits camera to "dance" with the actors. Photo by Gaston Longet.

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GEORGE BARNES WINS 1940 ACADEMY AWARD

TO George S. Barnes, A.S.C., goes the distinction of having been selected by his fellow members of the camera profession as the foremost director of photography for 1940. At the Thirteenth Annual Awards Banquet of the Academy of Motion Picture Arts and Sciences, Barnes was proclaimed the winner of the 1940 Academy Award for the year's best black-and-white cinematography, in recognition of his skill in filming "Rebecca." Premiere honors in the color division went to Georges Perinal, Europe's foremost cinematographer, for "The Thief of Bagdad."

Voting on these Awards was, as usual, confined to members of the camera profession. Competition was, if possible, even more hotly contested than in previous years, ten final nominations being selected in the monochrome division, and six in color, from a field open to every feature production released during 1940.

A welcome departure from the previous tradition of having these Awards bestowed by a disinterested and usually more or less inarticulate technician or executive was the Academy Committee's decision to entrust the presentation of the Cinematography Awards to one who from personal experience could speak feelingly of the true value of a great cinematographer's mastery of the art and science of cinematography — an actress—and no one could have more graciously represented her profession than did the lovely Rosalind Russell.

In presenting the Cinematography Awards, Miss Russell charmingly summarized the players' appreciation of the cinematographer when she said, "I feel honored indeed in being permitted to present the next two Awards. They are a happy composite of the Arts and Sciences, and every actress appreciates their importance, for without these artists no picture could be made, regardless of the cast, the director, writer or producers.

"It is only fitting that I tell you that our cinematographers are among the greatest artists of the screen. Their sensitive feeling, sense of composition, and their uncanny skill in arranging lighting effects help every artist to give a better performance and to look, as we ourselves know all too well, like in real life we don't. The technical skill of these gentlemen is positively uncanny, and their ingenuity in placing their cameras and keeping them participating in the action of various scenes is likewise worthy of commendation.

"There are two Awards for Cinematography with which I am concerned tonight. One is for black-and-white, the other for color. The Cinematographers' branch of the Academy has viewed many, many pictures in selecting its nominees. The following Awards have taken weeks of viewing for nomination and selection, which at the hands of rival—if friendly —camera artists speaks in glowing terms of the outstanding attainments of the ten men nominated for this year's honors and especially for those who receive the two Awards."

Barnes' victory is richly deserved, and unquestionably popular with his fellow cinematographers. A member of the American Society of Cinematographers almost since its inception, Barnes, despite his youth, has for more than two decades been one of the industry's outstanding camera-artists, with an imposing array of notable cinematographic achievements to his credit. In "Rebecca" he had the acknowledged advantage of being associated with a picture which was more than ordinarily distinguished in every department—it received Award nominations in no less than nine other categories, being adjudged the year's outstanding production, and receiving nomination as well for actor performance, actress performance, supporting actress performance, direction, screenplay-writing, film editing, black-and-white art direction, and original musical scoring—but it was Barnes' own brilliance which gained him the Award for the year's best cinematography.

Camerawork of true Academy Award calibre demands perfection in not merely one phase of cinematography, but in every one of the many factors which go to make up a well-photographed production. It must begin with outstanding mastery of photographic technique and lighting, and a technical and artistic consistency which is difficult, indeed to obtain amid the complexities of modern production. The players must be presented favorably. Pictorial composition must achieve and maintain outstanding heights of artistry. And throughout all this, the visual mood of the production as a whole and of each sequence and scene must be perfectly attuned to the dramatic and emotional mood of the production itself.

All of this George Barnes did in photographing "Rebecca." On the strictly technical side, the production showed unusual technical skill under a remarkably wide range of conditions, ranging from high-key exteriors and interiors to the most sombrely dramatic of low-key interiors and night-effects, with fog sequences and a spectacularly-handled fire sequence for added measure. Yet despite the great range of visual keys and effects, "Rebecca's" camerawork evidenced a smooth consistency which was exceptional, even when considered in comparison with the other notable films with which it competed. Such details as source-lighting, continuity of diffusion, camera-movement and the associated details of operative camerawork were handled in exemplary fashion.

The players—as is usual with Barnes at the camera—were exceptionally well photographed. In his treatment of Joan Fontaine, he faced a problem which could very easily have been misbandled to the detriment of her outstanding performance. At the start of the picture, she was introduced as an ingenuous young girl. There followed courtship, marriage, introduction into new and unaccustomedly splendid surroundings, succeeded by morbid persecution which drove her to the verge of insanity. Such a part is obviously exacting, and one which can be greatly aided by delicately-attuned camerawork; yet at the same time, such treatment overdone could shackle the finest performance. Barnes' sympathetic camera-treatment unquestionably aided Miss Fontaine in the many delicately-shaded emotional transitions of her role which won for her nomination among the year's outstanding actresses.

Barnes' camerawork was beautifully pictorial throughout almost every scene in "Rebecca." Regardless of setting or dramatic mood, there seemed scarcely an inch of film in the production which was not a well-nigh flawless example of composition and pictorial lighting. The majority of the settings were large and impressively sumptuous. Brought to the screen through Barnes' lens and lighting, they gained in richness.

Yet in no instance was mere pictorial effect permitted to interfere with the dramatic requirements of the story. As has already been indicated, the action covered a wide range of moods, but from the opening shot, a sense of subtle foreboding dominated, even in the lightest and most highly-keyed of the introduc-

tory sequenres. This visual overtone of impending tragedy was subtly—almost impereceptibly—built up scene by scene until the climatic action was portrayrd in a virtual creascendo of drematic photography. Director Alfred Hitchcock—deservedly one of the nominees for the directorial award—has an international reputation for his skill in painting drematic moods and building them suspensefully up to tremendous climaxes. No more thorough tribute to Barnes' skill could be paid than to say that his visual interpretstion of "Rebecca's" interlaced basic and transitory moods not merely kept pace with Hitchcock's directorial interpretstion of drematic moods, but in many ways enhanced it.

In short, Barnes' photographic interpretation of "Rebecca" is the sort of thing to which his fellow cinematographers may point, as inderd they did in bestowing upon it the industry's premiere Award, as a complete example of what truly great camerework can mean to a production.

The achievement of Georges Perinal in capturing the Color Award is unique in many ways. While Academy Awards for acting, art-direction, and the like have previously crossed the Atlantic, this is the first time in the thirteen-year history of these Awards that a European cinematographer has in open competition with American directors of photography, by their own choice, been adjudged to merit premiere honors. It seems singularly fitting, too, that the choice should fall on Perinal, who has long been rated Europe's top master of the camera, and who photographed "The Private Life of King Henry VIII," the film which marked Britain's rebirth as a major film-producing centre. It seems significant, too, of the ties of professional fellowship which bind the cinematographers of the world together, that the cinematographers of a democretic America should send this Award to a colleague who is reported now serving with the armed forces of Britain.

In "The Thief of Bagdad," Perinal had rere opportunities to exhibit the sheer beauty of which modern color cinematography is capable; but he also had a tremendous handicap—the memories many of us cherish of the superb beauty of the original Douglas Fairbanks production of "The Thief of Bagdad," photographrd in 1924 by Arthur Edeson, A.S.C. That Perinal succeeded in capturing the Award is a high tribute to his skill, and to the magic of Technicolor in the hands of an artist. Certainly few productions in recent years have exceeded this in pictorial beauty and imagination. It points the way, too, toward the heights of cinematic pictorialism which can be reached when the artistic resources of color are turned imaginatively in the direction of fantasy.

This year, the Academy drastically altered its former policy of naming the runnere-up for the various Awards. In the photographic Awards, this is certainly a fortunate move, for the various nominees were so closely matched, and of such a uniformly high order, that it would be most unfair to single out any one or two as second and third best. In the monochroma division, the nominees included James Wong Howe, A.S.C., for "Abe Lincoln in Illinois;" Ernest Haller, A.S.C., for "All This and Heaven, Too;" Charles B. Lang, Jr., A.S.C., for "Arise, My Love;" Hal Rosson, A.S.C, for "Boom Town;" Rudy Mate, A.S.C., for "Foreign Correspondent;" Tony Gaudio, A.S.C., for "The Letter;" Gregg Toland, A.S.C., for "The Long Voyage Home;" Joseph Valentine, A.S.C., for "Spring Parede;" and Joseph Ruttenberg, A.S.C., for "Waterloo Bridge." Nominees in the color group included Oliver T. Marsh, A.S.C., and Allen Davey, A.S.C., for "Bitter Sweet;" Arthur Miller, A.S.C. and Ray Rennahan, A.S.C, for "The Blue Bird;" Leon Shemroy, A.S.C. and Ray Rennahan, A.S.C, for "Down Argentine Way;" Victor Milner, A.S.C. and W. Howard Green, A.S.C., for "Northwest Mounted Police;" and Sidney Wagner, A.S.C., and William V. Skall, A.S.C., for Northwest Passage."

George Barnes, A.S.C. receives the Academy Award Statuette from Rosalind Russell Photo by Pat Clark

For only the fifth time in the thirteen-year history of the Academy Awards, the Academy's most jealously-guarded award for Scientific or Technical Achievement, was bestowed. This Award, which may be granted or withheld at the option of the Committee, was given jointly to Grover Laube, Daniel B. Clark, A.S.C., Robert W. Stevens and the late Charles Melvin Miller for their joint development of the Twentieth Century Silenced Camera (see AMERICAN CINEMATOGRAPHER for September, 1940) which, as the Academy citation stated, is "a completely new development in motion picture camere engineering, and gives motion picture production the flexibility and freedom of operation enjoyed prior to the advent of sound." A Certificate of Honoreble Mention in this same classification was also issued to Anton F. Grot and the Warner Brothers Art Department for the design and perfection of the Warner Brothers Water Ripple and Wave Illusion Machine which "—is a mechanical device for creating the illusion of rippling water, permitting wide latitude in the production of marine scenes and water effects within limited confines of any stage, thereby securing natural results under controlled conditions."

Other of the Academy's Technical Awards included: Special Effects, to Lawrence Butler (photographic) and Jack Whiting (sound) in "The Thief of Bagdad;" Sound Recording, to Douglas Shearer, A.S.C., the special-process cinematographer who turned recording engineer, and the MGM Sound Department, for "Strike Up the Band;" Art Direction (black-and-white) to Cedric Gibbons and Paul Groesse for "Pride and Prejudice;" and a newly-created Award for Art Direction in color to Vincent Korda for "The Thief of Bagdad;" and Film Edit-

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PUTTING NATURALNESS INTO Modern Interior Lightings

By ARTHUR MILLER, A.S.C.

FOR many years we cinematographers have been rather boastfully telling ourselves and others about the "natural" light-effects we were obtaining in our interior scenes. But it seems to me that for the most part we were only fooling ourselves; only within the past year or so could we say with any degree of honesty that we were really creating natural lightings. Previously, while our ideas and intentions were of the best, technical limitations made it utterly impossible to do more than approximate most of the natural effects we wanted.

When we had only relatively low-speed emulsions to use, it is only natural that all interior lightings had to be more or less artificial. The distorting factor was of course the high illumination-level necessary to produce an exposure on the film. Consequently, we had to use our light, so to speak, in large packages. No matter how we tried to play our lighting for source-light effects, the actual illumination had to come from a host of high-powered lamps lining the set on the overhead lamp-rails and hemming in the actors on the stage floor. We were forced to paint our pictures, therefore, with an over-large brush which was incapable of giving us the delicate touches needed for truly natural effects. In innumerable instances, the light-sources powerful enough to produce a photographically discernable light effect would be so bulky that they could not be crowded into the physical space from which a beam must shine to produce that effect, while a unit small enough to be used at that point—even if such units had been available—would be too low-powered to give any photographic effect. As a result, we compromised, and the result, inevitably, was artificial-looking.

Today, on the other hand, we have modern high-speed emulsions and in some instances, coated lenses as well, so that we can use vastly lower and more normal light-levels. Because we can use less light, we can employ it in smaller packages. Where a few years ago the standard lighting unit was a spotlight fitted with a 1000-Watt or 2000-Watt globe, today in most studios the 500-Watt baby spotlight is becoming more and more the standard set-lighting unit. And within the past eighteen months an even smaller lamp—the tiny 150-Watt "Dinky Inky"—has been developed, and proved itself invaluable. Before the days of fast film, such a lamp would have been too absurdly small to have any practical value. Today, it has become the fine brush by which we can at last paint our precision light-effects with the small, delicate brush-strokes we have so long needed.

For practical illustrations of some of the methods of using these new-day small lamps for precision lighting, I have turned to specific scenes from some of my own recent productions. In using them, I am fully aware that other cinematographers may well have even more striking examples of these methods of lighting; I do not wish to slight them, but I am of course most familiar with the scenes I have lit and photographed myself.

Figure 1 shows a scene from "The Mark of Zorro." In lighting this scene there were three paramount considerations. First, we must make it logical that the face of the pseudo monk, actually "Zorro" (Tyrone Power), should remain darkly invisible to the heroine, Linda Darnell; yet at the same time, when the "monk" turns during a later phase of the action, his face must be visible to the audience. Second, Miss Darnell must be so lighted as to present her beauty attractively. Third, we must light the set itself in such a way as to be compositionally attractive, and to make the lighting on the two people believable.

The accompanying plan shows how this scene was lit using three 500-Watt Baby Keglights and six 150-Watt "Dinky Inkies." Baby Keg No. 1 provided the key-light. It not only illuminated Miss Darnell, but also provided a logical reason for keeping Power's face heavily shadowed beneath his monk's cowl. Baby Keg No. 7, placed high on the lamp-rail, provided the necessary back-lighting on Miss Darnell and on the railing behind her, to separate them from the background. Baby Keg No. 6, also on the overhead lamp-parallel, provided additional top-backlight on set and players from this necessarily important angle.

Dinky Inkies Nos. 2 and 3 were concealed behind the flowers on the altar in the background, and were directed upward along the wall. It will be noticed that their beams fall *in front of* the candlesticks at the altar, throwing their shadows against the wall—a logical and necessary effect, since these candles were not lighted. On the other hand, Dinky Inkies Nos. 5 and 5, which were concealed behind the flowers at the smaller altar, cast their flooded and diffused beams on the wall *behind* the candlesticks and on the statue. This again is logical, for these beams simulate the natural, visual effect of the light from these lighted candles. Now that we can use these small lamps, which can be concealed so easily within the scene, we can at last get away from the unnatural method of creating such lighted-lamp effects by means of a concentrated beam from a spotlight on the opposite lamprail, which inevitably defeats its purpose by also casting on the back-wall the shadow of the light-fixture which is supposed to be producing the illumination! Dinky Inky No. 8 performs a similar service for the candles before the figure directly behind Miss Darnell, while Dinky No 9 completes the lighting by providing a soft "filler-light" in that corner of the set.

Figure 2 is another candle-light scene from "The Mark of Zorro." In this, the problem was to provide a convincing effect of candle-light (with a trace of waning daylight outside the window in the left background) and yet provide the necessary illumination for the action—melodramatic swordplay—and to strike the correct visual mood for this type of action.

Again the key-light was a 500-Watt Baby Keglite (No. 1) shining across the table and strongly illuminating the frightened man in the chair. It also served to illuminate part of the back-wall behind him, and to throw upon it a pictorially strong shadow of man and chair. Baby Keg No. 2, placed high on the lamp-rail, served a similar purpose for the masked swordsman, "Zorro," and created a strong highlight on the white back-wall, against which his dark garments stand out prominently.

The alcove in the background was illuminated by lamp No. 3—a heavily-silked broad—while the effect of pale sunlight coming through the window in the background, and projecting its shadow-pattern on the far wall at the left, was produced by a heavily-diffused arc spotlight placed outside the window.

It will be obvious that since "Zorro" stands leaning against the tall candlestick, the chief illumination on his face and figure should come from that source. It actually came from lamp No 5, a Dinky Inkie, placed on the floor slightly nearer the camera than the candlestick, and concealed from the lens by the table and chair. Similarly concealed behind the chair, another Dinky, No. 6, with its beam flooded and diffused, completes the lighting by lightening the shadows on the corner behind the players.

In Figure 3, we have another candle-light effect, this time played in a more sombrely dramatic mood, in a scene from "Brigham Young—Frontiersman." The

principal source of illumination appears to be the candle on the table. This was simulated by Dinky Inky No. 1, placed on the table, concealed behind the tall hat, which threw its beam strongly up into the face of Dean Jagger, playing "Brigham Young," and throwing his shadow strongly against the back-wall. A second Dinky, similarly concealed behind the hat, throws its more diffused beam against the other wall, also simulating the candle's light. Dinky No. 3, on the floor at left, continues this effect, and silhouettes the man in the left foreground, No. 4, a Baby Keg-lite placed well to the left, outlines the man in the foreground on that side, and aids in lighting Jagger and the wall behind him. Another Baby Keg on the back lamprail is crossed to illuminate the two men at the right.

The lighting is completed by the use of two arc spotlights. No. 5 was used to illuminate the backing outside the window. No. 6, well flooded, shone through the window to provide rim-lighting on the two figures at the right.

Figure 4, also a scene from "Brigham Young—Frontiersman," is another example of the simplicity of dramatic effect-lighting with modern tools. The principal source of the light would obviously be the oil lamp suspended over the table. This was made the source by placing a Photoflood bulb inside the lampshade at "A" and reinforcing this source with lamp No. 1, a Baby Keg placed overhead.

The strong key-lighting on the group of three by the left window—especially centering on Dean Jagger, was provided by lamp No. 2, a Dinky Inky, placed on the table and concealed from the camera by the man seated in the foreground. The equally strong lighting on the other man seated behind the table was provided by Dinky No. 3, placed on the table in much the same way and concealed from the lens by the man standing in the foreground. Lamp No. 4—another Dinky— gave the rim-lighting necessary to make the man standing at the end of the table stand out well from his dark background. Lamp No. 5, a diffused arc spotlight, provided the effect of faint light coming in through the left-hand window, while broads Nos 6 and 7 illuminated the backing outside the window.

But Dinkies are by no means the only units which can at times be concealed within the scene. Figure 5 illustrates this. It, too, is a scene from "Brigham Young," a stage exterior night-effect. In this the principal light-source is of course the fire. To begin with, two No. 2 Photoflood globes were placed behind the fire; the flickering firelight-effect was created by the usual gadget which burns an oil-soaked wick in a metal pan directly behind these lamps, so that the smoke interrupts their beams to produce the requisite flicker.

The chief light-source on the principal players in front of the wagon was a Baby Keg, No. 1, placed low on the

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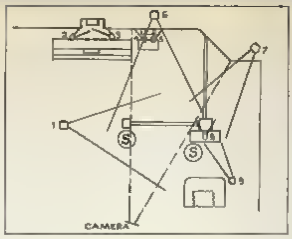
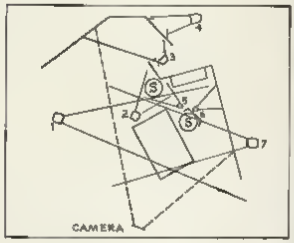


Figure 1.



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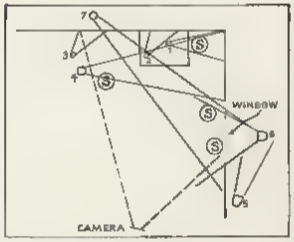

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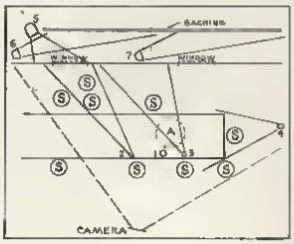

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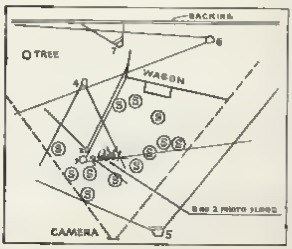

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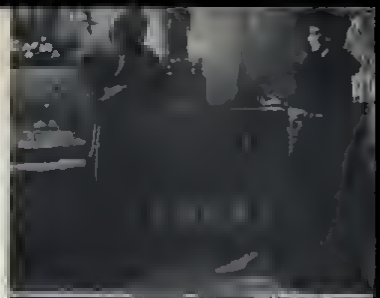

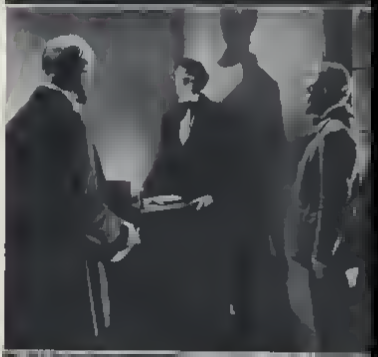

Cartoon cameras grow up. left, camera that filmed early "Mickeys", right, today's Multiplane Technicolor cartoon camera

GROWING PAINS

By WALT DISNEY

At the Fall, 1940, Convention of the Society of Motion Picture Engineers, the Society's Progress Medal was most appropriately awarded to Walt Disney. His informal response, elaborated into the article, "Growing Pains," appeared in the Journal of the Society of Motion Picture Engineers (January, 1941, Vol. XXXVI, pp. 30-40) and is here reprinted because, in addition to providing most significant historical data on the amazing growth and expansion of the animated cartoon during the last twelve years, it is one of the few articles we have ever seen which fully captures the breezy spirit of one of the greatest artists of our day, Walt Disney.—Editor

IN DECEMBER, 1938, there appeared a most interesting paper written by Dr. H. T. Kalmus describing the adventures of Technicolor in Hollywood. I have been asked to prepare an article along similar lines telling of highlights in the history of our company and animated pictures. Messrs. Garity and Ledeen have written a paper covering the technical side of our development, so I had better stay on my side of the fence and talk about animation and where I was born and about *Three Little Pigs* and what-about-the-future of the business. When I protested that all this had been written up many times before, and that such an article would be dull and of little interest, Mr. Garity said, "That's right!" and left the office with a dirty laugh.

Making this job even more difficult, I found in rereading Dr. Kalmus' paper of 1938, that he had "lifted" semi-philosophic thoughts which I had planned to put in my article. I accuse him of what might be called "prophetic plagiarism," and I resent it, too, because I have so few semi-philosophic thoughts.

For instance, Dr. Kalmus starts off by stating that his developments in Technicolor have been an adventure, and adds the Webster definitions of *adventure: chance of danger or loss; the encounter of risks; a bold undertaking; a remarkable experience, a stirring incident; a mercantile or speculative enterprise of hazard.* Now, I had planned to start my paper with this definition and continue with the statement, "My business has been a thrilling adventure, an unending voyage of discovery and exploration in the realms of color, sound, and motion." It has been that! And it has been a lot of fun and a lot of headache. The suspense has been continuous and sometimes awful. In fact, life might seem rather dull without our annual crisis. But after all, it is stress and challenge and necessity that make an artist grow and outdo himself. My men have had plenty of all three to keep them on their toes. But how very fortunate we are, as artists, to have a medium whose potential limits are still far off in the future; a medium of *entertainment* where, theoretically at least, the only limit is the imagination of the artist. As for the past, the only important conclusion that I can draw from it are that the public will pay for quality, and the unseen future will take care of itself if one just keeps growing up a little every day.

The span of twelve years between *Steamboat Willie*, the first *Mickey* with sound, and *Fantasia*, is the bridge between primitive and modern animated pictures. No genius built this bridge. It was built by hard work and enthusiasm, integrity of purpose, a devotion to our medium, confidence in its future, and, above all, by a steady day-by-day growth in which we all simply studied our trade and learned.

I came to Hollywood broke in 1923, and my brother Roy staked me to a couple of hundred. We lived in one room and Roy did the cooking. He was my business manager, and I didn't have any business. His job was to scare up three meals a day, and his job now is to conjure up three million dollars to meet the annual payroll. Both jobs have demanded just about the same amount of sweat, ingenuity, and magic. The main difference is that Roy sweats *more* red ink now. But no matter what the future deals me, I shall consider that I have come a long way, if for no other reason than that Roy doesn't do the cooking any more.

I sold my first animated cartoon for thirty cents a foot. *Pinocchio* and *Fantasia* cost around three hundred dollars a foot. The first *Mickey Mouse* was made by twelve people after hours in a garage. About twelve hundred people are working overtime now in a fifty-one-acre plant with fourteen buildings, four restaurants, its own water system, air-conditioning, and a gentleman named Myron to massage the kinks out of my neck.

My first motion picture camera was "ad libbed" out of spare parts and a dry-goods box swiped from an alley off Hollywood Boulevard. It was hand-cranked, that camera. Even then I felt the urge to grow, to expand—I was very ambitious in those days—so we bought a used motor for a dollar to run the camera. It had once been a second-hand motor, but since that time it had seen everything and died. We had to hire a technician to make it go. We have been hiring technicians ever since. Our business has grown with and by technical achievements. Should this technical progress ever come to a full stop, prepare the funeral oration for our medium. That is how dependent we artists have become on the new tools and refinements which the technicians give us. Sound, Technicolor, the multiplane camera, *Fantasound*, these and a host of other less spectacular contributions have been added to the artist's tools, and have made possible the pictures which are the milestones in our progress.

That first movie camera now stands in all its ad lib splendor in a Los Angeles Museum. Our new multiplane cameras are two stories high and operate by remote control. But, on the whole, the basic tools and technics of my craft had been worked out before I learned the rudiments of animation out of a book in Kansas City.

There had been animated cartoons long before motion pictures. The Stone Age artist came pretty close to animation when he drew several sets of legs on his animals, each set showing a different stage of a single movement. A Frenchman named Plateau was the first to make a cartoon move. In 1831, he invented the *phenakistoscope*, a device of moving disks and peepholes. The successive stages of an action were drawn on one disk. When the disk was spun, the illusion of motion resulted. Many similar devices were invented to make pictures move. The first animated cartoon on motion picture film was made by J. Stuart Blackton in 1906. It showed a fellow blowing smoke in the face of his girl friend. A bit corny, but not bad! *Snow White and the Seven Dwarfs* was

Twelve years' progress in animated cartoons: scenes from "Steamboat Willie" (1928), the first "Mickey Mouse," and "Fantasia," (1941)

not the first feature-length cartoon by twenty years, while the first cartoon mechanically colored dates back to 1919. The greatest single contribution of the pioneers came from Earl Hurd who invented (1915) the idea of tracing the moving parts of a cartoon on celluloids superimposed over opaque backgrounds. This great labor-saving device is still the foundation of our modern method.

The miracle of seeing drawings move was enough to enthrall the early motion picture audiences. Then, as the edge of the miracle wore off, interest in cartoons was revived by numerous series of cartoons built around the antics of stock characters. Some of these series were very popular. Whether or not these pre-*Mickey* cartoonists ever sat back and thought about the *possibilities* in the medium, I don't know. I was ambitious and wanted to make better pictures, but the length of my foresight is measured by this admission: Even as late as 1930, my ambition was to be able to make cartoons as good as the *Aesop's Fables* series.

I was knocking out a series called *Oswald the Lucky Rabbit* for Universal at the time sound exploded like a bomb under silent pictures. The series was going over. We had built up a little organization. Roy and I each had our own homes and a "flivver." We had money in the bank and security. But we didn't like the looks of the future. The cartoon business didn't seem to be going anywhere except in circles. The pictures were kicked out in a hurry and made to a price. Money was the only object. Cartoons had become the shabby Cinderella of the picture industry. They were thrown in for nothing as a bonus to exhibitors buying features. I resented that. Some of the possibilities in the cartoon medium had begun to dawn on me. And at the same time we saw that the medium was dying. You could feel *rigor mortis* setting in. I could feel it in myself. Yet with more money and time, I felt we could make better pictures and shake ourselves out of the rut. When our distributor, Universal, wouldn't give us the money, we quit. Most of our staff went over to Universal. That hurt! But I had made my Declaration of Independence and traded security for self-respect. An artist who wouldn't is a dead mackerel. Thereafter, we were to make pictures for quality and not for price. The public has been willing to pay for this quality.

Out on my own again, I looked for a new character and hit on Mickey Mouse. The first two *Mickey Mouse* pictures were silent. We couldn't peddle them. It occurred to me that in a world gone sound-mad, since the release of Al Jolson's *The Jazz Singer*, a cartoon with action synchronized to sound would be something of a sensation. My third *Mickey, Steamboat Willie*, was planned with this in mind. By some miracle we managed to figure out the basic method for synchronizing sound and action that we still use. When the picture was half finished, we had a showing with sound. A couple of my boys could read music and one of them could play a mouth organ. We put them in a room where they could not see the screen and arranged to pipe their sound into the room where our wives and friends were going to see the picture. The boys worked from a music and sound-effects score. After several false starts, sound and action got off with the gun. The mouth-organist played the tune, the rest of us in the sound department hammed tin pans and blew slide whistles on the beat. The synchronism was pretty close. The effect on our little audience was nothing less than electric. They responded almost instinctively to this union of sound and motion. I thought they were kidding me. So they put me in the audience and ran the action again. It was terrible, but it was wonderful! And it was something new!

I took *Steamboat Willie* to New York and started a dreary hunt for a sound company which was not too busy or too expensive to record the sound for me. I finally made a deal with Cinephone. Theirs was a pretty punk sound system until Bill Garity redesigned it later on. But in spite of that, *Steamboat Willie* was an instant hit. It played the Colony, then moved to Roxy's. Mickey was a big shot over night. Lush offers poured in from Hollywood, but Cinephone had us nailed to a contract. A year later, in a joint deal with Columbia, we bought up the contract. Cinephone had given us a bigger picture budget than had Universal, and Columbia had upped the figure considerably again. But soon the increasing quality on which we were building our business demanded bigger and bigger advances. Columbia couldn't take it, so in 1931, we made a deal with United Artists to distribute our cartoons.

This new deal, for all practical purposes, gave us financial independence. Since then, we alone have determined how much our pictures will cost. Not that the industry hasn't had a great deal to say about our picture costs, in one sense. Time and again, it has been said that we were crazy and would go broke. Mack Sennett claimed that we put live-action shorts out of business because they could not afford to spend the money to compete with us. The fact was the reverse. Live-action shorts could not afford *not* to spend more money if it would improve their quality. By 1931, production costs had risen from $5,400 to $13,500 per cartoon. This was an unheard of and outrageous thing, it seemed. And a year later, when we turned down Carl Laemmle's offer to advance us $15,000 on each picture, he told me quite frankly that I was headed for bankruptcy. This was not short-sighted on his part. He had no way of seeing what we saw in the future of the medium.

As *Mickey Mouse* became a universal favorite and the money rolled in, we had been able to afford the time and money to analyze our craft. I think it is astounding that we were the first group of animators, so far as I can learn, who ever had the chance to study their own work and correct its errors before it reached the screen. In our little studio on Hyperion Street, every foot of rough animation was projected on the screen for analysis, and every foot was drawn and redrawn until we could say, "This is the best that we can do." We had become perfectionists, and as nothing is ever perfect in this business, we were continually dissatisfied.

In fact, our studio had become more like a school than a business. As a result, our characters were beginning to act and behave in general like real persons. Because of this we could begin to put real feeling and charm in our characterization. After all, you can't expect charm from animated sticks, and that's about what *Mickey Mouse* was in his first pictures. We were growing as craftsmen, through study, self-criticism, and experiment. In this way, the inherent possibilities in our medium were dug into and brought to light. Each year we could handle a wider range of story material, attempt things we would not have dreamed of tackling the year before. I claim that this is not genius or even remarkable. It is the way man build a sound business of any kind—sweat, intelligence, and love of the job. Viewed in this light of steady, intelligent growth, there is nothing remarkable about the *Three Little Pigs* or

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Aces of the Camera
III:
RAY RENNAHAN, A.S.C.

By WALTER BLANCHARD

WHEN you think about natural-color cinematography you think about Technicolor — and when you think about Technicolor, you think almost as inevitably about Director of Photography Ray Rennahan, A. S. C, who for nearly twenty years has been the mainstay of Technicolor's photographic staff. Back in 1921 he photographed the first Technicolor feature ever released—"Toll of the Sea." Six years ago, in 1935, he photographed "Becky Sharp," the first feature made by Technicolor's modern three-color process. And almost exactly one year ago he received the industry's highest photographic honor—the Academy Award—for his participation in Technicoloring "Gone With the Wind." During the years between, he has specialized in color cinematography to such an extent that he has photographed or participated in photographing a great majority of the outstanding color productions made.

But if you try to single him out with some such poetic title as "the grandaddy of Technicolor cinematographers," Ray Rennahan is likely to rebel. He'll smilingly point out that at forty-five he's in the wrong age-bracket entirely for such a title. "And besides," he'll add, "I'm *not* actually the senior cinematographer in point of years with Technicolor: that honor properly belongs to George Cave, A. S. C., who, though in recent years he has been a Technicolor executive, was for many years a cinematographer—and a good one. George photographed the firm's first tests, and their first feature, too, in the quickly-abandoned additive two-color process. I came on only after the two-color subtractive process had been developed to the point of being commercially feasible, and Dr. Kalmus came to Hollywood to make a feature.

"But there's no particular point in digging back into that ancient history. Technicolor and all of us who have been associated with it have come a long way in these last twenty years; but I think that all of us, from Dr. Kalmus right on down the line, are a great deal more interested in the achievements yet to be made than in anything we've done in the past.

"That's not saying we haven't made progress! Even in the past six years, since the present three-color process has been in use, we've seen changes, not only in the process itself and the results we can get with it, but in the industry's attitude toward color. Six years ago, making a color feature was an adventure, and more; to the producer it was a gamble, and to the production crew on the set it was a headache. Today the industry has learned to take color in stride. The producer knows that color, intelligently used, definitely adds to the box-office appeal of a good picture. And the production personnel on the set know they can do anything with Technicolor that they can with black-and-white—and do it more effectively because of the added element of color."

Rennahan considers his long specialization in color a definite asset. "Of course I've shot some black-and-white now and then," he remarks. "I did, for instance, when we were recently down in Mexico City on location for my present picture, 'Blood and Sand,' and some monochrome background and stock-shots had to be picked up for the studio. As a matter of fact, I've shot just enough monochrome to know I can handle it better than I ever did before, just because of the training I've had with color. But I'm always glad to get back to color; it's so much more satisfying.

"And," he points out, "there's a definite advantage to working as we Technicolor cinematographers do. We *do* get around! I think we get a greater variety of work and experience than almost any other group of cinematographers. It's not only that we're constantly working in different studios, on different pictures, and with different production cinema-

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MOVIES FOR NATIONAL DEFENSE

An Interview With

MAJOR GENERAL J. O. MAUBORGNE

Chief Signal Officer, U. S. Army

and

COL. NATHAN LEVINSON

Vice-chairman, Academy Research Council

Major General J. O. Mauborgne presenting Special Academy Award to Col. Nathan Levinson
Photo by Pat Clark

MOTION pictures are fully as important to National Defense as steel! This is not the visionary statement of an imaginative publicist, but the considered opinion of a hard-headed professional soldier, Major General Joseph O. Mauborgne, Chief Signal Officer of the United States Army. And the Government is backing this opinion with action: through the Army's Signal Corps on the one hand, and the Research Council of the Academy of Motion Picture Arts and Sciences on the other, all of Hollywood's incalculable technical and creative resources are being thrown into the making of instructional motion pictures by means of which recruits for Uncle Sam's growing army can be taught the latest methods of mechanized and streamlined warfare.

"By means of these films," states General Mauborgne, "we can train soldiers at least four or five times as quickly—and much more thoroughly—than would be possible by any other method. Therefore when the passage of the Selective Service Act so vastly expanded the Army's personnel-training problems, our training-film production had to be expanded, too, to keep pace with the Army's needs. So we have turned to the motion picture industry for help: and thanks to the efforts of Col. Nathan Levinson, of the Academy's Research Council, and its manager, Capt. Gordon Mitchell, we find the industry mobilized—ready and eager to help us in any way it can.

"During the past two or three months a permanent organization for this work has been set up. Already, the first two films have been completed and sent to Washington for official delivery to the War Department. And I think those two films speak more eloquently than I could of the way the industry is cooperating with the Army. For these two films represent Hollywood's best talent in every creative and technical department. The first picture, for example—a three-reel film on basic personal hygiene—embodies the skill of two men who have just been singled out for the industry's highest tribute, the Academy Award. It was directed by John Ford, and photographed by George Barnes, A.S.C.

"The second production—a four-reel film on health—was directed by Irving Pichel, who will also direct the third picture, the script for which is just being completed, and which will deal with military courtesies and customs. I may say we are constantly being amazed at the top-flight talent being offered us. Col. Levinson tells me that right now we have offers from $5,000,000 worth of the industry's greatest directors—that is, $5,000,000 worth if we had to pay their accustomed salaries—to donate their work gratis for future films. Among them may be mentioned such men as Frank Capra, Mervyn LeRoy, William Keighly, William Wyler, and many others. It is the same in every other department of production."

Everything about the way these pictures are being made stands immensely to the industry's credit. Some industries consider themselves extremely patriotic if they accept an $80,000,000 order from the Army; the motion picture industry is literally giving cooperation and talent no money could buy. Col. Levinson explains that virtually all of the essential and most expensive services—producers, directors, writers, directors of photography, and the like—are in one way or another being donated. Many of the normally high-salaried individuals are donating their services completely. In other instances, where essential individuals like directors of photography, recording engineers, and the like, are under contract to a studio, the studio donates their services. Others, not under contract, have agreed to work for scale.

"We of the Research Council do not propose to see any profiteering in the making of these pictures," he states, "and I am delighted to say that every individual and organization in the industry is cooperating fully. The top-salaried workers are naturally in a position to donate their services, and I am sure many of the lower-salaried people would be equally eager to donate theirs: but we have agreed that we do not want to make any of these lower-salaried workers suffer economically for their patriotism."

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INNOVATIONS IN NEW Williams Laboratory

LATEST entry in the competition for Hollywood's picture, sound-track and positive film processing is the new and enlarged plant of the Williams Film Laboratory. Under the direction of veteran laboratory and special-process expert Frank Williams, this organization has for a number of years enjoyed an enviable reputation for precision-quality work in the comparatively limited field of specialized sound-track and process-plate processing. The new plant's facilities have been enlarged to include picture negative, daily and west-coast release printing on the same quality basis, with further possibilities of expanding to handle national release-printing on a large volume-high quality basis if necessary.

Occupying new quarters at 1040 North McCadden Place, Hollywood, the plant is now in operation with a capacity of 100,000 feet of picture-negative, 100,000 feet of sound-track negative, and 250,000 feet of positive per day, making a total daily output of nearly half a million feet of film, all processed, according to Williams, to the same exacting standards of precision and quality for which the plant's previous work was renowned. Applying these methods to the processing of picture negative, Williams states, results in a combination of exceptional shadow-detail and fine-grain quality which has an effect comparable to that of the new "coated" lenses in apparently increasing screen definition and brilliance without exaggerated contrast. Applied to sound-track processing, the result is stated to be better definition in variable-area track, and finer gradation in variable-density recordings, giving in each case improved tonal characteristics with notably reduced distortion. Comparative tests made by sound experts in several studios indicate a truly surprising increase in frequency response and volume-range for track processed under these conditions.

Film is processed in a battery of four developing machines of special design. These embody a positive drive and what is stated to be the highest degree of agitation employed in any commercial processing unit. The developing solutions are applied to the film in a unique manner: instead of relying upon immersion combined with circulatory turbulence as is customary, the developer is sprayed upon the film through a series of concentrating jets. The result, according to Williams, is that the developing agents, being constantly replaced by fresh solution in direct contact with the emulsion, act with greater uniformity and power, and with less retardation by the oxidation by-products which ordinarily accumulate upon the surface of the film. Tests on both picture and sound-track negative indicate that this method of processing eliminates the usual directional streak-effects to a remarkable extent.

Daily prints are made by a battery of Bell & Howell printers, with release-printing done on the efficient Bell & Howell production printers.

Processing is, as might be expected, safeguarded by exact sensitometric control methods. In this department, the new photoelectric densitometer designed by C. S Franklin, who heads the firm's sensitometric staff, is employed. Substituting the untiring eye of a photo-electric cell for visual observation, this instrument eliminates a frequent cause of error in the use of conventional densitometers—visual mis-judgment and visual fatigue. Instead of relying upon visual comparison of the density to be measured with a known standard density, the Franklin instrument operates by passing a standardized beam of light through the density to be measured, after which the beam is focused on a photocell. The electrical indicator is calibrated to read directly in terms of photographic density. Thus, according to its designer, this densitometer is both more accurate and more quickly operated than conventional instruments.

Such usual auxiliary services as cutting-rooms and film-storage vaults are of course provided. It may be mentioned that the cutting-rooms are among the roomiest and best-illuminated of their kind we have seen. The negative-vaults, according to Williams, are the most capacious in any commercial laboratory on the west coast.

The plant's projection-theatre is without doubt one of the finest in the industry. The latest type Simplex projectors, equipped to handle either composite or separate sound and picture are installed, with high-intensity arc lamphouses and the latest push-pull sound-reproducing equipment. The theatre itself is of ample seating capacity for most review purposes Its acoustic treatment is unique, and is the result of joint design collaboration between M. A. Rittenger, theatre-acoustic expert of RCA, and acoustic engineer Don Loye of ERPI. With the exception of the back wall, which is acoustically dead, consisting of a 4-inch concrete foundation-wall upon which is a 4-inch layer of rock wool, surfaced with a ¾-inch application of acoustex, there is not a single flat wall-surface in the room, and no parallel surfaces whatever

The front wall consists of three curved bays: the central one forms a convex curved area the width of the screen, while the two side-panels are also convex, but of lesser curvature. Treatment of the side-walls carries out a similarly curviform plan. Each side-wall surface is divided into a number of wave-formed convex bays, increasing in width from front to back, and the two walls taper inward toward the screen in such a way that at no point in the room are there two parallel surfaces which can reflect sound to each other. The acoustic efficiency of this wall-design is increased by the fact that these walls are surfaced with unpainted stucco, in which the coloring pigment is contained within the material itself, rather than applied as an outside coat. The ceiling is fairly hard-surfaced, of beamed construction.

The result is what acoustic experts have stated to be the most acoustically perfect projection-room in the industry. Sound-waves appear to travel to every point with uniform quality, and with neither dead spots or reverberation-points Acoustic distortion traceable to room conditions is reported to have been almost completely eliminated. According to reports sound engineers from several major studios have studied the room with an eye toward reproducing its acoustic treatment in several projected new studio review-rooms, and in at least one studio a recording stage has been reconstructed to provide similar acoustic conditions for making symphonic recordings.

Another interesting feature of the new plant is that its air-conditioning installation makes use of the first electro-matic air-cleaner to be installed in a film-processing plant This cleaner, in place of the conventional methods of filtering, employs a novel dual-action unit to clean the air. As the air enters the housing, it passes through a slowly moving belt consisting of metal vanes coated with heavy oil, to which the heavier dust-particles adhere. As the belt revolves, the vanes are immersed in an oil-tank in which the accumulated dust is automatically removed, and a fresh coating of clean oil adheres to the vanes. As the vanes rise on the opposite side, each pair of adjacent vanes is connected to opposite poles of a 10,000-Volt direct-current circuit, so that adjacent vanes carry a heavy electromagnetic charge of opposite signs. The incoming air, after having been deflected past the descending, oil-covered vanes which absorb the heavier dust-particles by adhesion to the oil-coating, is directed past these charged vanes, which by electromagnetic attraction rid it of the lighter dust-particles. This type of air-filter is stated to be automatically self-cleaning, and highly efficient.

The Williams organization, according to Williams, is perhaps the most experienced in the industry in the handling of new, fine-grain positive and recording emulsions. The plant began its operations, he points out, as an adjunct to the Williams special-process photographic

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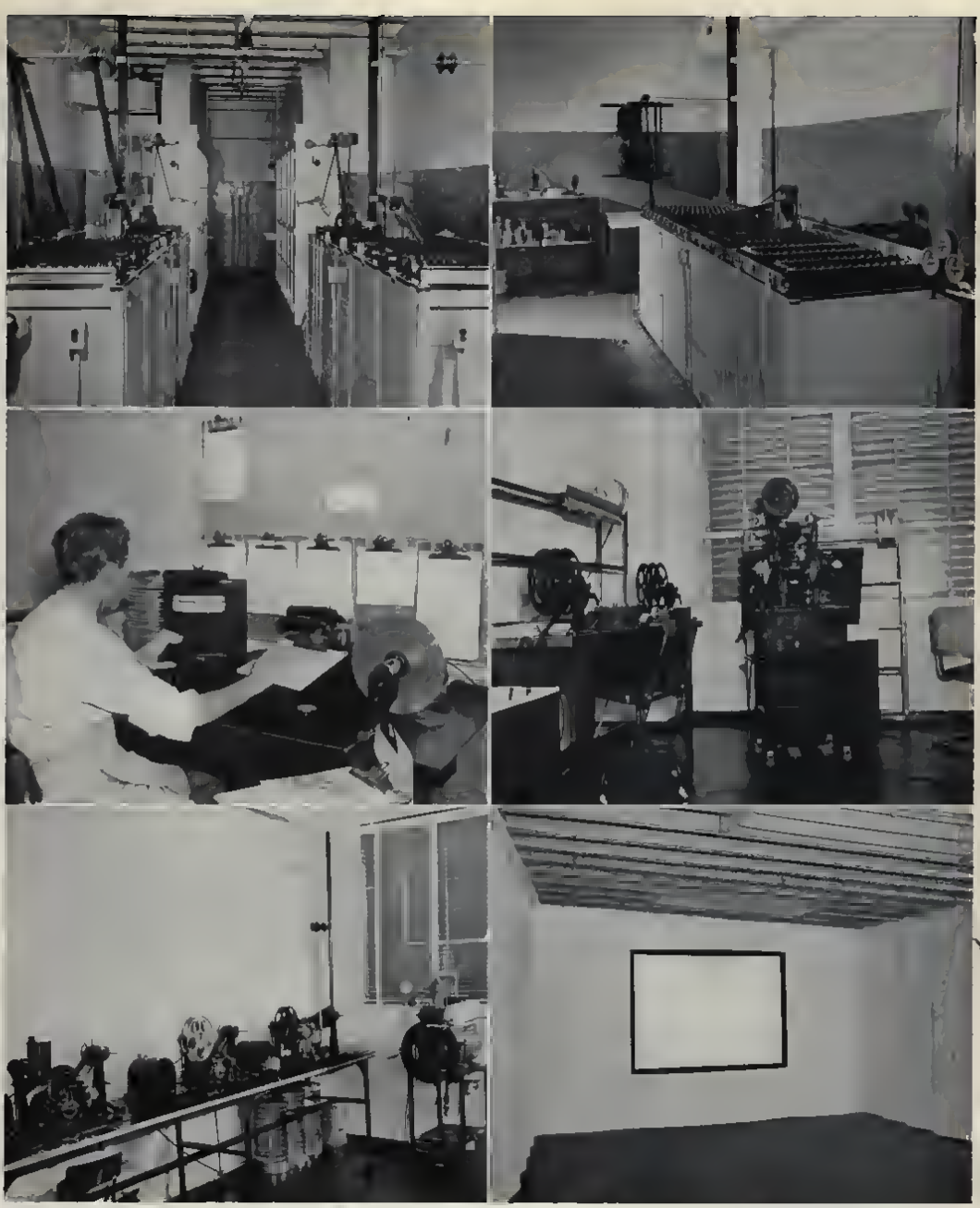

Top: Two views of the battery of developing-machines. Center, left, sensitometric control department; right, cutting-room. Bottom, left, film cleaning and polishing department; right, projection theatre; note curvature of side-walls. Photos by Pat Clark.

Developing and printing at 300 mph. Top, left, making the picture; right, developing negative in plate-holder. Middle, left, checking printer, right, inspecting print (in holder) during fixation. Bottom, left, tossing metal container from plane, right, finished print—less than five minutes from exposure to print! Official photos, U. S. Army Air Corps

UNCLE SAM'S 300 MPH FLYING LABORATORY

By REED N. HAYTHORNE, A.S.C.

Washington Staff Correspondent

WHEN the U. S. Army Air Corps orders pictures, speed is the watchword in more ways than one. Today the Army's flying photographers can expose, develop and print tactical stills, while streaking through the air at 300 mph. on observation missions. Officials of the Air Corps Photographic Research Laboratory at Wright Field, Dayton, Ohio, under the direction of Major George W. Goddard and Project Engineer John Hancock, have devised methods of photographing, developing and printing a picture in an airplane so speedily that the finished print may be dropped from the airplane within four or five minutes of the time the shutter clicks.

The military advantages of this quick photography process will be obvious in these days of mechanized attacks and blitzkriegs. Suppose a ground-troop concentration in the field is expecting an attack from an enemy on its right flank. Suddenly the commanding general is advised that the enemy is concentrating mechanized units on his left flank for a surprise attack at that point. Prompt, accurate information as to the truth of this raport is vital. And it must be in his hands quickly, so he can dispose his troops to meet the new threat before the blitz has time to develop!

Radio directs observation planes to obtain quick photos of the enemy's dispositions in the questioned area. Within a matter of minutes the finished prints are dropped at field headquarters, and the general has definite proof, substantiating or disproving the second raport. Using the Air Corps' equally new flash-bomb technique, these photos can even be brought back on the darkest night.

Using the quick photography method, Air Corps cameramen can also supply a definite photographic record of the effectiveness of long-range artillery within a few minutes after a salvo has been fired. And the photographers also can locate targets far out of sight, but within range of the big guns, by spotting them in photographs in relation to known landmarks.

Most important factors in the Air Corps quick photography method are: (1) a compact processing tank with four compartments which may be installed in any Air Corps tactical ship larger than a single-seat pursuit plane; (2) a special type of cut-film holder designed by the photographic laboratory which is used continuously as a camera holder and as a processing holder; and (3) a small but highly efficient printer operated in a light-proof zipper bag.

The Air Corps has tried the direct positive or reversal method of photography in which the picture is taken on a piece of photographic paper, which when developed, itself becomes the finished print. But the Air Corps experts have discarded this method, at least for the time being, and have gone back to the conventional method of exposing a negative and then transferring the image to a positive print.

It was found that the direct positive was extremely limited in its emulsion latitude. It could be used only under favorable daylight lighting conditions, and even then the exposure had to be just right. With either a bad overexposure or underexposure, the picture was lost.

Now the Air Corps photographers frequently have to work under unusually difficult conditions when they want early morning or late evening pictures. Wars don't wait for ideal picture-making weather-conditions! So the research men have returned to the orthodox method. But they are still experimenting with direct positives in the hope of producing an emulsion which will make the direct positive process usable under wide latitudes of lighting conditions and exposure.

Let's follow Wright Field cameramen and see how they make a "quick photograph."

They take off and fly high over an airport which they have selected as their pictorial objective. The pilot swings the plane over the objective and the cameraman "fires" his 20- or 40-inch telephoto lens camera, designed for making oblique intelligence photographs. Incidentally, he doesn't have to focus his camera. He is far enough away from the ground so that the camera has a fixed focus, at infinity, except for infra-red film where a special infinity focus is required. So all he has to worry about is exposure and lens opening.

As soon as the exposure is made, he takes the holder from the camera and immerses it in the first section of the tank. He pulls the slide up out of the holder so that it sticks up above the tank and uses this as a handle to agitate the holder in the tank so that the negative is fully treated in the developer for one minute.

Replacing the slide, he removes the holder and transfers it to the second section of the tank, where it gets the same agitating process for 15 seconds, in a stop bath solution. The negative then gets 75 seconds in the third tank, a fixing solution, and a 5 second water rinse in the fourth tank.

Incidentally, each section of the tank has a nonspill lid, so that the plane can do any ordinary maneuvers without spilling chemicals. And the tank is jacketed in an insulation material one and one-half inches thick, which is electrically heated to a constant temperature of 75 degrees.

After its rinse, the negative is quickly sponged off with a rubber squeegee, to remove extra moisture, and is then ready for printing.

It is placed on the printer contact surface, and covered with a sheet of transparent material, to keep the printing paper from getting wet. The sensitized paper is taken from a container and placed over the negative, and the lid is brought down to make the exposure.

To the trained photographer there is ordinarily nothing unusual about this procedure—but it must be remembered that the quick-work photographer has his arms thrust into that black zipper bag, and is doing everything without seeing what he does—and this with his laboratory moving at 300 miles per hour.

The printer gets its exposure light from a single bulb which is near the source of contact but which is shielded so that it throws its light down to a reflector before the printing surface. The light which comes back up to the plane of contact is in evenly diffused parallel rays so that there is no chance of unequal light distribution.

As soon as the print is made, the paper is placed in a holder similar to that used for the film, and is speeded through the same four processes of de-

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THROUGH the EDITOR'S FINDER

ONE of the worst disadvantages under which we who make motion pictures labor is the fact that producer and consumer must necessarily be so far separated. Editorial writers in the industry's trade papers have repeatedly urged upon the industry's executives, directors, stars and scenarists the importance of getting away, at least occasionally, from their usual haunts in Hollywood and New York, giving themselves a chance to meet and mingle with the great audience for whom we make our pictures, learning at first hand what the public wants.

To this writer's mind, it is fully as important for those of us concerned even remotely with the technical aspects of production to find out *how* that audience is being given our work. For we here in Hollywood live in our own little *Shangri-La* of technical perfection. When a major studio makes a picture, endless pains are taken to make sure that every tiniest technicality of photography and recording is perfect. When we see the completed product, we see it almost invariably amid the technically perfect surroundings of a studio projection-room, or one or another of the better-equipped theatres of the Los Angeles area. We see a specially made Hollywood print, given the finest of projection and sound reproduction.

But—what happens when that same picture goes into release? *What* and *how* does the paying public see it?

Recently we got a partial answer to that question. It wasn't particularly flattering—but it merits the attention of all of us.

We've had as our guest in Hollywood a top-flight commercial cinematographer from one of the large middle-western cities. He's a man who knows photography, sound, prints and projection. During his stay we took him to several studio previews, and on one occasion, we visited one of Los Angeles' better neighborhood theatres to see a film both of us had previously missed.

As we came out of the theatre, he turned to us and remarked feelingly, "You fellows who live in Hollywood don't know how lucky you are. We'll see that same production back home—but it won't be the same picture at all. You tell me this is just an average neighborhood theatre—but let me tell you something: back home we don't have such projection or sound-reproduction even in our biggest and best first-run theatres! We can get sound like that in our radios—but not in our theatres; we never see such fine projection, and the prints—well, the prints our first-run houses get can't compare with what I've seen in this third-run theatre in Hollywood. What we get at home is just a pale shadow of the picture and sound you people make for us. Of course I know it just isn't in the cards for us to get clean, fresh, flawless prints like the one I saw previewed at the studio the other night—but I wish that just once we could see a print like the one I saw tonight, projected the way I just saw it! We're only getting about a third of what we pay for when we go to the box-office at home."

It seems to us that we in Hollywood are getting only a fraction of what we pay and are paid for, too, when our product reaches its customers under such conditions. Projection and theatre matters are of course out of the sphere of this publication. But it would seem that we in Hollywood's technical community have a vital interest in the sort of prints that carry our wares to the public.

More recently, in chance conversation with two others—a Hollywood cinematographer and a laboratory expert—we added further potent thoughts along the same line. The cinematographer told us of being on location and seeing a release print of one of his own pictures. He had seen the master print in the studio, and he could hardly recognize his own work in the release-print he saw in the field. It was worn, of course, but he could make allowances for that. What he could not understand was the obvious carelessness with which the print had been made. Despite all the care which he and the Hollywood laboratory supervisor had taken in timing and balancing that master print, the release-print appeared to have been made with little thought of correct timing. Where perhaps a scene or two needed to be printed a point darker or lighter, these corrections were ignored; one whole reel appeared to have been printed with the light-change cues out of sync. In every reel, contrast and gradation were unbelievably distorted.

A few hours later, the laboratory expert, discussing the same problem of coordinating the work of the daily and release-print laboratories, commented on how on one recent production a release-printing contract hinged on a difference of less than $0.005—*five mills*—per foot! We don't know how the quality of output in the several release-printing plants involved may vary—but we wonder if in many instances the industry may not be penny-wise and pound-foolish in settling release-printing deals on such picayunish savings. On the particular production involved, this saving in release-print costs totalled—*for the entire release*—less than $300. That is less than a week's salary for the man who photographed that picture, or for its cheapest featured player. It is less than one tenth of what was spent for raw picture-negative alone. A single good day's business in any first-run theatre in a large city should bring in far more at the box-office. And yet for such a small, penny-pinching pseudo-economy, many a producer runs the risk of wasting much of the work his camera and sound crews have done in their efforts to give him the best possible photography and sound for his production! We wonder if it pays!

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SOME people in Hollywood are prone to say that cinematographers aren't news. But every so often, along comes a writer or journalist who hasn't heard that dictum—and by writing intelligently about cinematographers, proceeds to prove it false. All of which is by way of extending the sincere appreciation of the A.S.C. to two noted writers who have recently given the camera profession their attention in national periodicals. First is John Erskine, who in the February 22 issue of *Liberty* has a sincere and praiseworthy article entitled "Hollywood Cameraman," wherein he interviews Joseph Valentine, A.S.C. and Harry Stradling, A.S.C., in a way which while not perhaps phototechnically perfect, certainly presents the cinematographer to the lay reader in a truer light than anything we've seen in a long time. Second comes actress-columnist Hedda Hopper, whose daily syndicate column is always ready to give credit to the achievements of the men behind the camera. To both of them, our most sincere appreciation—our thanks for recognizing that cinematographers *are* "good copy," and proving it so capably. And a suggestion—there are several hundred other directors of photography whose achievements, ideas and personalities are equally newsworthy; and the A.S.C. and its official publication stand ready and eager to give you every cooperation in your efforts to bring your readers further honest news about the men who film their movies.

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SOMETIMES we wonder if those of us in the cinetechnical community really appreciate the services offered us by the raw-stock manufacturers and their distributors. We lunch with them, play golf with them, accept their advice on professional and technical problems—but do we ever give a serious thought to the intricate job they are constantly doing for us?

There was a time—not so many years ago, either—when if a cinematographer or laboratory-man wanted film, he could freely choose between a magnificent array of two types: negative and positive. If he wanted to find out anything about the performance or technical characteristics of that film, it was usually up to him to find it out for himself, at his own expense or that of his studio. If the results obtained were not up to

(Continued on Page 136)

A.S.C. on Parade

They staged a birthday-party to end all birthday-parties at Universal one day recently. Promptly at noon the doors of the stage where **Rudy Mate, A.S.C.,** was filming "Flame of New Orleans" were flung open to admit 20 waitresses from the studio commissary, who entered singing "Happy Birthday, Dear Rudy," and ceremoniously presented him with one battered cup-cake, in which was a single lighted candle. The troupe provided a huge box of "gag" presents, among which was discovered a textbook on romantic approach, inscribed feelingly to "the shyest man in Hollywood." But after the ribbing was over, star Marlene Dietrich provided champagne in which the company toasted Rudy's birthday in approved style.

s

And speaking of birthdays—**John Mescall, A.S.C.,** over at Paramount to direct the photography of "The Night of January 16th," is instituting a quiet campaign to have the pic's handle changed to "The Night of January 10th," on account of that's his birthday.

s

Across the back fence at RKO, **Roy Hunt, A.S.C.,** and **Russell Cully, A.S.C.,** have packed their bags and camera-cases for a trip to Ft. Benning, Ga., to make scenes for Roy's forthcoming RKOpus, "Parachute Battalion."

s

Anent anniversaries and such, Columbia's one-man short-subject studio, veteran producer-director-cinematographer **Ralph Staub, A.S.C.,** draws a new contract to continue turning out his "Screen Snapshots." This marks the start of his 9th year as a Columbia producer on this series, for which in all he has produced, directed and photographed a total of 531 subjects. Nice going, Ralph—keep it up!

s

Eddie Cronjager, A.S.C., certainly has the nicest things happen to him. First his bosses at 20th Century-Fox give him a trip to Sun Valley to shoot scenes for their snowpus of that name. Then right in the middle of that, they send Eddie word his option's been picked up for another term of moviemaking at the Westwood plant. Well, after seeing Eddie's work on "Western Union," you can't blame them for wanting him around.

s

Arthur Miller, A.S.C., is another man whose face will be seen behind Col. Zanuck's cameras for another year. Even before the preview of his latest—"Tobacco Road"—TCF executives handed him a dotted line to sign on. And by the way—have you seen Artie's version of the rhumba? It's terrific!

s

By the same token, **Paul Ivano, A.S.C.,** is en route to tackle the tango on its native heath. He's just signed a contract with Baires Films, of Buenos Aires, which will keep him in South America's growing "estudios" for the next three years.

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Arthur Todd, A.S.C., gets the camera assignment to "Mother's Boys" at Warner Bros.

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Last time we looked in at Paramount, it looked like Old Home Week. **Karl Struss, A.S.C.,** was back filming "Caught In The Draft;" **Ted Sparkuhl, A.S.C.,** was on another stage lensing "Nurses Don't Tell;" and we learn that **Victor Milner, A.S.C.,** for seventeen years a Paramount fixture, will soon be back to direct the photography of Cecil DeMille's next technicolored opus, "Reap The Wild Wind." Before that, though, Vic, who just finished "The Man Who Lost Himself" at Universal, will stop long enough on the RKO lot to put "My Life With Caroline" on film.

s

Charles G. Clarke, A.S.C., almost always seems to be wearing a smile, but lately it's been beaming even better than usual. Seems as if the executives over 20th Century-Fox way thought so much of his work filming "The Cowboy and the Blonde" that they've signed him up to a new contract.

s

If there's a dearth of big productions this season, **Gregg Toland, A.S.C.,** doesn't know it. He's had the director of photography assignment on three of the season's biggest (and toughest) ones in quick succession — Walter Wanger's "The Long Voyage Home," "Orson Welles' "Citizen Kane," and Howard Hughes' "The Outlaw"—with another big one, Goldwyn's version of "The Little Foxes," with Bette Davis, coming up early in March. With production on the Hughes picture repeatedly delayed, Gregg almost had to forego his long-anticipated vacation on director John Ford's yacht off Mazatlan, Mexico. But he finally managed to slip away, turning over completion of "The Outlaw" to the capable hands of **A. L. Gilks, A.S.C.** Incidentally, Al is loud in his praises of the Hughes organization and of the smooth efficiency of Gregg's crew.

s

Franz Planer, A.S.C., draws the assignment to photograph Columbia's "Time Out For Rhythm." At least, that's the title up to the time of going to press; it's been changed two or three times already, and may be again. Really, getting out this department would be a simpler task if the studios wouldn't change titles quite so often!

s

Wonder where is that picture **Art Lloyd, A.S.C.,** promised us for this page?

Glennon, Skall Top Preview Critics Poll

Technicolor productions were the heavy winners in the Hollywood Reporter's Critics Preview Poll for January. **Bert Glennon, A.S.C.** and **William V. Skall, A.S.C.,** co-directors of photography on Paramount's Technicolored "Virginia," captured first honors. Second by a single vote was **Tony Gaudio, A.S.C.,** for his monochrome camerswork on Warner Bros.' "High Sierra." Third place went to another Technicolor film, Twentieth Century-Fox's "Western Union," the work of **Edward Cronjager, A.S.C.,** and **Allen M. Davey, A.S.C.** The latter film was but three votes behind "High Sierra," making it the closest race of the month, and probably one of the closest in the history of the poll.

The patriotism of **Vernon Walker, A.S.C.,** recently stood up under a severe jolt. It seems RKO's special-effects head-man has had to move his yacht from the snug Wilmington dock where it has been moored for years. Reason? Dock-space needed for make room for defense manufacturing. At that, maybe Skipper Walker is lucky; the Navy hasn't yet requisitioned it to add to the mosquito fleet!

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Peverell Marley, A.S.C., is purring delightedly over his new Lincoln Zephyr. Get him to tell you sometime about the deal he made in getting it.

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Hal Rosson, A.S.C., draws the assignment to MGM's "Washington Melodrama."

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By the way, did you see the commanding table ASC-Prexy **John Arnold, Joe Ruttenberg, A.S.C.,** and their fellow MGM-ites had at the Academy Banquet? Looked like the Royal Box at the Opera! Also glimpsed at the Academy blow-out were the Paramountaineers — including head-man Roy Hunter, Victor Milner, A.S.C., **Charles Lang, A.S.C., Farciot Edouart, A.S.C.,** sound-expert Loren Ryder, and others, grouped convivially around another well-placed table. At the next table, **Gordon Jennings, A.S.C.,** surprised us with the Continental gallantry of the way he congratulated Editing Award-winner Anne Bauchens when she returned to her seat with her plaque. We spotted **James C. Van Trees, A.S.C.,** and Warner Camerasxec Mike McGreal, with charming partners, doing nobly on the dance-floor, too. The Warner aggregation was too far from our table to make sure, but reliable reports indicate that **Fred Gage, A.S.C.,** shaved in honor of the occasion. As a matter of fact, the A.S.C. was out in force, in its best bib-and-tucker, to honor George Barnes' well-earned victory.

Many Glacier region scene from Yale's film "In All the World"

Glacier National Park Moviemaker

By WILLIAM STULL, A.S.C.

WILLIAM S. YALE has one of those jobs most of us can only dream about. As Chief Cinematographer for the Great Northern Railway, he spends his summers wandering around Glacier National Park with a Cine-Kodak Special, making Kodachrome movies of "the Alps of America"—and getting paid for it.

And Bill Yale's movies are outstanding. In camerawork, composition, continuity, sound and presentation they are far and away above the general run of commercial movies. Many amateur cine clubs, like the critical and movie-wise Los Angeles Cinema Club and the Los Angeles 8mm Club, have a definite aversion to including commercial 16mm films in their program material: but both of these clubs, in common with many others throughout the country, have spontaneously extended to Yale an unreserved invitation to attend their meetings any time he happens to be in town, and to show them any films he may happen to have with him. Definitely, he stands in the front rank of the nation's top Kodachrome filmers.

But if you ask Bill Yale about it all, he will modestly disclaim all personal credit. "You can't help making good pictures in Glacier Park," he will insist. "You know, the Blackfoot Indians there have a saying that in that region, no matter in which direction you look, you'll find a picture. In the last four years I've shot over 100,000 feet of 16mm. Kodachrome in and around Glacier Park, and I'm pretty well convinced that the Indians have put it just about right. The park is located right astride the ridge of the Rocky Mountains, you know, and it offers just about every type of pictorial scenery you could imagine, ranging from rolling prairies, in which here and there towering granite buttes stand up like sentinels, to some of the highest and most spectacular mountain scenery in America. I've never been to Switzerland, but people who have assured me that our own Glacier Park region is even more impressive scenically and photographically.

"Glacier Park, by the way, gets its name from the fact that it is one of the few places in continental America where living glaciers are still to be found. Within the park's area there are a total of 60 glaciers, many of them surprisingly easy of access. For good measure, too, there are more than 250 lakes in the park, with enough prairies and forests, rivers and waterfalls, wildflowers and wild animals to provide just about every picture ingredient anyone could wish for. It's no wonder that nine people out of every ten who come to the park seem to have some sort of a camera; and a surprising number carry 16mm. or 8mm. cine cameras and Kodachrome. And no wonder, for it's one of the most colorful spots in the world.

"There are naturally a number of technical tips that will help anyone who visits Glacier Park bring back better pictures of his trip. Take the matter of exposure, for instance. Practically all of that mountain country is at elevations ranging from 6,000 to 7,000 feet above sea-level. Atmospheric and lighting conditions at such altitudes naturally are somewhat different from those most of us are accustomed to in making pictures at home, in lower altitudes. In many of the most pictorial long-shots, too, your lens will be taking in a tremendous expanse of landscape, which means there's often much more light than you realize entering the lens.

"I've noticed there is a general tendency among amateur still and movie photographers visiting Glacier Park for the first time to overexpose. Accustomed to the light-values encountered at lower altitudes, they are amazed when I tell them that in shooting our Kodachrome movies, our average exposure ranges between f:6.3 and f:8 at 24 frames per second; that works out to f:8 to f:11 at the 16-frame speed of the average silent-picture camera. Keep to that sort of exposure, except of course for close-ups and in shade, and you're likely to be pretty successful.

"The safest guide to exposure anywhere is of course a dependable, photo-electric exposure-meter. I use one religiously in my work. As a matter of fact, I use two, for when I'm out on the trail filming a saddle-trip, there's always the possibility I may drop one meter and break it just when I need it most.

"If you use a meter, be sure and point it well down when you take your readings, for the sky at those altitudes re-

"Trick Falls," Glacier Park, scene from Yale's film, In All the World"

fiects a lot more light than you're used to at home. Taking your readings with this in mind, you'll get excellent results. And, by the way, when you minimize the effect of sky reflection in your meter-readings, you'll find that in most cases your Kodachrome will automatically give you beautiful deep-blue skies, and your black-and-white, fairly dark grey ones without any filtering, so that clouds, snow-capped mountains, and the like will stand out beautifully.

"When you're making scenes in which people figure, be sure and take your meter-readings for the *faces*, rather than for the scene as a whole. And take your readings so you'll be exposing for the darkest-tanned or most shadowed face! With everything else so colorful and so highly reflective, those faces and shadows are the governing factor in your exposure.

"This is particularly the case when you're shooting the Indians. Their complexions are a deeply reddish copper-color—very dark—and unless you expose for them, they'll be underexposed and lost in either Kodachrome or black-and-white. In fact, they'll be worse than that, for our Indians wear white buckskin costumes, ornamented with colorful, pastel-shaded beadwork and feather trimmings, and the contrast between the dark faces and the white costumes will exaggerate the actual contrast unless you expose for the faces and trust the latitude of film and processing to take care of the highlights. That old-time rule of still photography—'expose for the shadows, and the highlights will take care of themselves'—is a pretty safe guide to go by anywhere.

"There's another thing about handling film at the high altitudes you'll encounter in Glacier Park. The light is deceptively penetrating. I've learned from sad experience never to try to load film—especially Kodachrome—outdoors, even in what you'd normally call shade. If you do, you'll find edge-fog spoiling your film for as much as 25 or 30 feet from the *inner* end of your leader! Of course you can't always go indoors to load the camera when you're shooting in such an expansive part of the 'great outdoors' as Glacier Park—but you can almost always sit down somewhere in the shade, fold your coat over your lap, and use it like a changing-bag. It's a certain amount of bother, of course, but believe me, it is worth it in film saved.

"Another thing, it isn't very healthy to leave film-cans in the car where the direct rays of the sun can hit them. I don't know whether it's the heat, or some peculiarity of the high-altitude sunlight, but again there's danger of fogging. To be on the safe side, keep your new and exposed film covered up in your camera-case.

"Filtering either black-and-white or Kodachrome there in Glacier Park is a simple matter. With Kodachrome, I almost never use a filter except when I've been shooting interiors inside one of the lodges or hotels, using Photofloods and Type A film; then if I want to finish up the roll on exteriors, I naturally have to use the usual Type A daylight filter.

"According to most Kodachrome instruction-books, some of the extreme long-shot landscapes we have up there ought to call for the use of the Kodachrome haze filter. But, to speak frankly, I never use that filter. To my mind, it's worse than useless, for two reasons. In the first place, the faint, blue-violet haze you'll get in the distance of such shots is a part of the actual, visual impression you receive looking at the view itself. I like to have it in my picture, and I find most audiances like shots that show it.

"Secondly, if you really want to cut through haze in Kodachrome, a pola-screen will do the job much better. It will also deepen your sky very effectively when you want one of those deep blue "Maxfield Parrish" skies to make mountains or clouds stand out. As a rule, in actual practice, when I use a pola-screen for either of these purposes, I seldom use it to the full polarization, but instead to about half or three-quarter polarization. It makes scenes made that way match up better with the other, un-polarized shots.

'By the way—if you've been using a pola-screen for any length of time, as I have, better check it over for discoloration before shooting color with it this season. I lost quite a lot of valuable film from that cause last summer, and I found that quite a number of the earlier pola-screens have had to be replaced because they discolored. The discoloration wasn't visually obvious unless you were looking for it, but it showed up very objectionably on the screen.

"Filtering in black-and-white at Glacier Park's altitudes is also a simple matter. The light is so strong up there

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Rocky Mountain Goats come down to the chalets in early evening, and may be filmed easily with fast film.

From top to bottom: St. Mary Lake, Indians welcoming new arrivals at station, Two Medicine Lakes View from Prince of Wales Hotel, Waterton Lakes National Park (Canada), adjoining Glacier Park, another scene on trail beside St. Mary Lake, Yale (standing on dolly) filming an interior scene in Glacier Park Hotel for "In All the World."

SCENARIO FILMS — UNLIMITED!

The Story of the Movie-making Long Beach Cinema Club.

By HARRY E. WARD, JR.

MOST amateur movie clubs, in principle, at least, agree that there's a lot of truth to the old saying that "two heads are better than one." Most of them apply it merely to the showing and discussion of the films made individually by the members. But the Long Beach, California, Cinema Club has for nearly four years applied it most successfully to the cooperative making of scenario films. During that time we've filmed more than half-a-dozen scenario productions — four of them feature-length—and we've made our club activities so much a part of the life of our community that when the Club goes into production it receives from the police, the city officials and the merchants of Long Beach the same active cooperation that would be afforded a troupe of Hollywood professionals.

In making these productions, there's no such thing as an official Club cinematographer. All of us who want to film the picture may—and our recent productions have been lensed by as many as seventeen 16mm. and 8mm. cameras simultaneously. Needless to say, there's some rivalry between the members as to which of the various versions of each story is best! Since each member is free to choose his own camera-angles, to shoot or to ignore any given scenes, and to edit and title his film as he may choose, the different picturizations of the same story and action show a remarkable range of originality and treatment.

I haven't as yet heard of any cine-clubs that *ended* in a police-station, but I think the Long Beach Cinema Club is probably the only one which *began* its career in such surroundings. The first meeting of the club—which at that time was a nameless orphan—was held in an upstairs room over the Police Station in the suburb of Belmont Shore. This was in the fall of 1937.

After two mildly promising organizing meetings (at which no appointments were made, and very little done, since none of us knew how!) the Club's third meeting, at which about 70 people were present, finally got us started right. Expert George Andrews, from Los Angeles' Eastman Kodak Store, told us about the activities of similar clubs in other cities, and showed us some films which proved a revelation to most of us. Up to that time, I must admit, few of us had any idea of what 8mm. and 16mm. cameras could do: most of us were endowed with only the cheapest of cineboxes and practically no knowledge of how to use them, and judged by any serious standards, our pictures—proud of them though we might be—were pretty awful stuff on the screen.

At this meeting, the Club really got going. Otis Hoyt, who had arranged for our meeting-place because of his connection with the Police Department, was elected President, and the Club got its name. We continued to meet in these quarters—at no cost to the Club—for the first six precarious months of the Club's life. Our dues were set at the modest sum of 50c a month. With the first money taken in, we splurged and bought a large Da-Lite screen which became Club property. And yours truly was elected projectionist, custodian of equipment, and property-man. What a job!

In the spring of 1938 we embarked on our first production—"Danny's Mistake." Somehow, the story was quite a success, even though most of us had hardly any idea which end of the camera ought to be pointed at the subject. For example, though there were, if I remember rightly, some six cameras grinding on this story, there were only two exposure-meters among the lot. And after shooting the first two scenes, the owners of these meters showed us how badly wrong most of us were on exposure. Chastened spirits—and retakes—followed, and from then on we followed the guidance of the meters! The entire production took two shooting days.

When the titles were made and the films screened for the first time, we felt that the project was—to us, at least—a great success. Looking back, I don't think any of us can brag very much about it; still, it wasn't too bad, considering how little we knew about what we were doing.

Well, we had to progress, so in June of that same year—1938—we conceived the idea of a Club picnic. We journeyed forth to the Orange County Park complete with cameras, staff artists, wives, kids, lunch and lots of filmic ambition. There we combined picnicking with the production of a script called "Camera Clickers." In this an Imp (otherwise my Number One son) proved his worth in a leading role. Clarence Aldrich, a long-suffering man who had two months before, become the Club's second president, put on makeup, a goatee, and portrayed what is known as an Artist.

Throughout the luncheon the Imp placed salt in abundance on the Artist's sandwiches, salt in his coffee, and in general made a nuisance of himself in every way a gag-minded script-writer could imagine. The camera-climax was reached when the Artist—via pantomime and title—made the statement, "Of all places to sit, why did I sit next to you!" With that he left the table, picked up his painting, and went to a nice, photogenic spot near a tree and proceeded to paint the landscape. The rest of the Club gathered about to watch and the Imp, seeing his opportunity, picked up a gallon water-jug that stood nearby, and very politely—in the best Sennett manner—poured a generous quantity on the equipment of the painter, who received, too, an abundance on his southern extremities. That, of course, also in the Sennett tradition, led to the concluding "chase," in which the artist's easel and the nearly-finished painting were dashed to the ground and thoroughly ruined. Not particularly original, perhaps, and absolutely lacking in "social significance"—but we had more fun than a picnic making it!

By this time the picture-making bug had gotten well into our veins, so we decided to try our collective hand at a comedy. President Aldrich dreamed up an idea for a story called "Tramp's Triumph." Yours truly, of course, was again property-man—and what a job it was!

To cast the picture, we went outside our own group. There were parts for a housewife, two young girls and two boys. For these we applied to the city school system, and from that source received the needed cooperation in the form of five people who enthusiastically portrayed these parts. The tramp was loaned to use from one of the Los Angeles studios; our friend Mr. O'Connor donned grease-paint and steel-wool whiskers and filled the role excellently.

With ten cameras set up and loaded we started early one morning to film our epic.

In the old days of professional silent-movie comedies, so they tell me, a troupe often used to start out in the morning with a rough idea of what they wanted to hang their gags on, and then let things build up as they shot. That's a good deal the way we worked. Our script began with our tramp digging into a garbage-can and trash-barrel, in which he finds an alarm-clock, a new sock, a cigar, and a piece of rope from which to make himself a belt. While he continues his search for more treasures, he scatters discarded newspapers here and there. Then the housewife comes out, horrified at the havoc he's wreaking in her nice, clean yard. Lustily swatting the miscreant with her broom, she sternly orders him to pick up the papers. He does so, edging slyly toward the alley, up which he finally makes his escape. Once he has reached a point of relative safety in the next street, he stops, takes off his shoe and puts on the good sock, lights up the cigar, and strolls off feeling he's king of the world.

Between our group and one cooperative police officer, we kept the busses and street-traffic blocked while we filmed this action. Then, since it was only noon, and we had plenty of film left, we felt we simply had to shoot more footage. We maneuvered our tramp out into the street, and had him attempt to thumb a ride from passing cars. Of course, since he was no Claudette Colbert, nobody would pick him up—we saw to that, you may be sure! But it made good filming; he "mugged" appropriately, and ran after a car or two, which gave us plenty of useful footage. Finally one of our group picked him up and he proceeded to the city park. At this point we went violently slapstick, ending up by having one of the girls plant a very squashy chocolate pie on the poor tramp's schnozzle for the final fade-out.

That picture won a surprisingly favorable rating in one of the national movie magazines.

Encouraged by this success, we followed through with "A Night At The Club," our first all-indoor production, filmed with the aid of the local Players' Guild. This production, with "Judge Doolittle," another all-indoor film, with revisions of the Doolittle story was called "Esquire Escapade," and received top-flight honors for Clarence Aldrich from a national magazine, and an almost equally high rating for my own version of the Doolittle story. We were progressing!

In 1939 we spent hours, days and weeks trying to devise a story. We wanted to be different. Finally member LaNelle Fosholdt made a suggestion for a waterfront story called "Suzanna." The script was written, and an ad placed in the local papers for talent to apply for

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Long Beach Cinedubbers filming "Happy Landing." Top, players ready for a "take." Co-directors Bey Fosholdt (on ground) and Clarence Aldrich (standing). Center, frame enlargement showing scene-slate double-exposed on scene being shot. Bottom, 14 of the 17 members who filmed this picture lined up for action

SURGICAL CINEMATOGRAPHY

By FRED C. ELLS

PULSATING, alive, a pink-gray human brain is exposed. An embedded tumor smokes and hisses under the electric cautery as it is being excised. Sterile-gowned nurses and assistant doctors, nerves tense, watch with narrowed eyes the surgeon's rubber-gloved hands in delicate manipulation, as they maintain a steady balance between life and death. Above the sleeping patient, behind 5000 watts of white light, a purring 16mm camera with unerring fidelity records every detail of motion and color of the sensational drama.

That is a sequence that the layman in the past never saw. With a changing attitude on the part of the medical profession, however, surgical pictures of general interest are now being shown to the public in some localities. They are sure to excite an intense reaction, for even doctors whose lives are spent in the atmosphere of the operating room, gasp at the accuracy of modern color film, and the scalpel-sharp recording of the modern lens.

But satisfactory results in the specialized field of surgical cinematography are not possible without a great deal of cooperative understanding. The technical requirements are so exacting that most attempts by enthusiastic amateurs, and even by professionals inexperienced in this work, are dismal failures as teaching media.

Los Angeles surgeons count themselves fortunate in having available a surgical cinematographer, Billy Burke, whose surgical cinematography they consider unequalled in this country. But Mr. Burke has arrived at this eminence by over a decade of experimentation, and would be the first to admit that there are still many unsolved problems before him.

In a series of interviews with Mr. Burke for The American Cinematographer, he points out a few of the pitfalls that beset the beginner in this field. First consider the stage on which the picture is to be shot.

Hospital operating rooms run on a precision schedule. Patients and surgeons are assigned definite rooms at definite hours, and must not be kept waiting. Just sufficient time must be allowed between operations to clean up after one and prepare for the next. The cameraman must not interfere with this routine any more than he can possibly help. He must arrive at the hospital about an hour before the operation is scheduled, and get his equipment near the surgery. The equipment cases are seldom opened outside the hospital, lest they collect dust. The camera, an Eastman Cine-Kodak Special, with extra magazines, is carefully checked. That is, the camera-getes must be free of emulsion particles, and the interior of the magazines scrupulously clean. Lenses are painstakingly polished. Fresh 100 foot-rolls of Type A Kodachrome are loaded.

The keynote of the policy of THE AMERICAN CINEMATOGRAPHER is to bend every effort at all times to ensure complete technical accuracy and trustworthiness in the articles presented to its readers. To this end, when articles dealing with subjects with which neither the Editorial Staff nor the Advisory Editorial Board may be completely familiar are received, they are submitted before publication to the critical scrutiny of outstanding specialists in the field with which they are concerned. When this article was received, it was therefore submitted to the examination of one of America's foremost specialists in the exacting field of brain surgery, Dr. Rupert Rainey. His comment, coming as it does from an outstanding member of the conservative medical profession, is an unusual tribute to Mr. Ells' article and to Cinematographer Burke's achievements. He states "I have read and approved this article, and it is my opinion that it should be required reading for any operator of photographic equipment in a surgery."

—THE EDITOR

A professional-type tripod, solidly built, with a total possible height of 10 feet, is extended. Two lights, new No. 4 Photofloods, about 2,500 watts each, are screwed in their reflectors, which in turn are mounted in special fittings on the tripod, from which they may be turned on and off, and their position adjusted as necessary.

Equipment must be so constructed as to preclude absolutely any possibility of accidentally falling into the sterile field, or of any dust or dirt jarring off into that area. Finally, all electrical connections are checked, that there may be no failure of lights and the ample amperage may be received over *underloaded* power lines. Cable-connections are taped, so they cannot be accidentally pulled apart. There must be no electric sparks in the operating room, for ether and other gases are highly explosive. All equipment taken into the operating room must be wiped with a clean towel wet in alcohol.

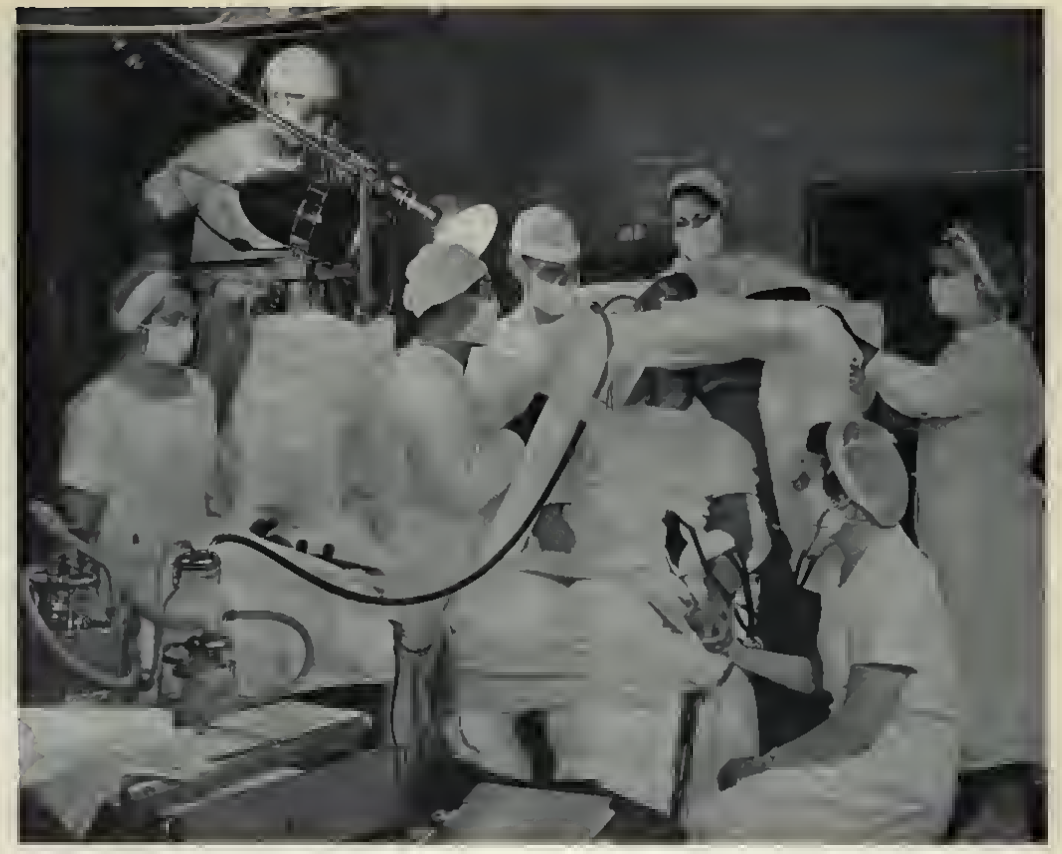
All this must be accomplished without interfering with the routine of the busy surgery. That requires on the part of the cinematographer intimate knowledge of hospital practice, and the cooperation of the hospital staff. Any infraction of rules or any misbap, might force the hospital to bar further cinematography. In a surgery, the patient is always the first consideration.

In the surgeons' dressing-room, the cinematographer removes his street clothing, washes up, and dons a sterile white gown, cap and mask. As soon as the patient is in position on the surgery-room table, the tripod is moved into position and the camera mounted. Any portion of the apparatus near the sterile field must be draped with sterile towels. The cameraman mounts a small step-ladder. He critically focuses on the field by a direct observation through the reflex finder. Surgeon and assistants place themselves in position. The stage is set.

From this point, cooperation with the surgeon is all-important. He has already discussed the case with the cinematographer, who must have a clear idea of the action to expect and the consequent angle at which to shoot. Such discussions require a considerable knowledge of surgery, for surgeons have a vocabulary of their own—almost a separate dialect—and it is incomprehensible to the laity.

At the same time, the camera has certain peculiarities, to which the surgeon must conform if the picture is to be successful. A surgeon who is familiar with motion picture technique, acquired by experience, is almost essential. Occasional quiet requests are exchanged. The area covered by the lens may not be over a foot square; often half that. The field must be left open as far as possible to the lens. The camera runs at 24 frames per second, but in so small a field the motion of the hands and instruments must be smooth and not too rapid. Otherwise the picture would falsely show what would appear to be nervousness on the part of the operator. Unnoticed, the surgeon's arm may move into the field. At a word from the cinematographer, it moves slowly out. Gloves become stained, or new gloves covered with powder are introduced. The surgeon is reminded to wash them off. Soiled towels in the field are replaced, and swabs and instruments removed promptly.

For his part, the surgeon calls the shots. He knows what he wants. Much of surgery is routine, familiar to all



Billy Sorka filming a delicate brain operation, Dr. Rupert Rainey operating. Note telephoto lens on Cine-Special, special mounts for camera and floodlights, and use of spotlight. Photo by "Dick" Whittington.

doctors, and a common mistake of beginners is to over-shoot and under-cut. That makes the finished film distressingly tedious. An operation may last two or three hours, yet can be adequately filmed, with titles included, in 15 minutes' projection.

The Photofloods snap on, dim at first. Check the field and focus, and adjust the aperture to, say, f:4. The lights leap to full intensity, dazzling on the white drapes. As the camera buzzes on the fade-in, the scalpel makes a clean incision, away from the camera. A thin line oozes red. A second swift, sure cut. Underlying tissues appear. Fade out as absorbent sponges are applied. The lights dim. The camera clicks as the film is reversed for a dissolve. The drive spring is wound tight again. An electric motor on the camera is not desirable—too heavy to suspend over the patient.

Focus is checked. The incision is getting deeper, and the tissues darker. Open to f:3.5 and stand by. The surgeon says, "Now!" Again the floods go on, the camera fades in on the significant action and film flows by the lens. Again and again, off and on, for perhaps three hours. As required, fresh film-magazines are quickly placed. There can be no delays, and there are no re-takes. Occasionally the unconscious patient groans, or even speaks, but he feels nothing. Modern anesthesia is a marvelous mercy. The pulse is reported as strong, breathing deep as in sleep, color good. In that tension-packed room the patient alone, about whom all centers, is at peace.

Toward the middle of the operation, the villain of the drama, an inexplicable, little-understood tumor is uncovered. Now the camera runs longer, recording the story of the victory of science. Carefully the dissection proceeds. The offending growth is delicately separated from the surrounding healthy tissue. From time to time the electric cautery hisses—a wisp of vapor appears. With a sure hand the surgeon cuts the last few connecting tissues, and removes the object of his search—the camera fades on this dramatic shot.

But it is necessary to show the cleansing and closing of the incision. Usually this is a routine procedure, and three or four dissolves quickly show the technique employed. Curved needles and sutures bring the severed tissues together. A final shot shows the dressing applied. The lights go dark on the little stage where a human life has been at stake.

A medieval physician piously remarked—"I cleansed the wound, and God healed it."

To this we can now add—"And the camera has recorded the action, that those who follow may be more skilled, to the end that human suffering be reduced, and a happier world result."

Surgical cinematography is not to be rashly undertaken by the untrained. It has none of the quick financial success of the theatrical field. But it pays large dividends in fascination, and a sense of contribution to the advance of medical science. END.

Projecting Sound and Silent Films

By James A. Sherlock

WHEN threading film into a projector it should be remembered that as the film passes the gate it should be upside down and wrong way round, as from left to right. Thus when facing the screen, the top of the picture should face the floor and the titles read from right to left. Below is a table showing which side should face the screen when various types of film are being projected:

Reversal original	Emulsion or dull side
Reversal duplicate	Base or shiny side
Positive print from negative	Base or shiny side
Dupe from a reversal made by taking a negative and making a print	Emulsion or dull side
Kodachrome and Agfacolor original	Emulsion or dull side
Dufaycolor	Base or shiny side
Kodachrome duplicate	Base or shiny side
Reversal dupe from positive print	Emulsion or dull side
Reversal dupe from reversal dupe	Emulsion or dull side

Projection-lenses

Standard cine projection-lenses supplied by manufacturers are usually twice the focal length of standard cine camera-lenses; thus a 1-inch lens is provided with 8mm. projectors, and a 2-inch lens with 16 mm. projectors. These lenses will be found suitable for home use, but other focal length lenses are available for most popular projectors.

The accompanying table indicates the sizes of pictures obtained with various lenses at given distances. It should be noted that, under given conditions, as the distance between the screen and projector increases, the brilliancy of the picture decreases.

Projection lenses should be kept scrupulously clean and free from oil and dirt in a manner similar to that recommended for camera lenses.

Placing Projector and Screen

The projection lens should be placed above the heads of the audience to permit an unobstructed view to those seated in the rear. The projector should be seated on a very firm base and cushioned on a piece of sponge-rubber or felt which has the effect of absorbing noise. The bottom of the screen should be about 4 ft., 6 in. from the floor.

If the projector is moved or jolted when the lamp is burning its filament is liable to collapse, therefore the machine should be placed on a firm stand before it is used, and the lamp turned off before the projector is moved.

Screen Types

There are three types of screens commonly used for home projection.

Type (1) is the popular glass-beaded screen, composed of minute glass beads covering a white cloth. This screen is easily damaged and therefore should be handled with great care. It is most suitable for audiences seated in a narrow room because pictures viewed from an angle of more than 15 degrees from the projecting angle are affected by refraction. The advantage to be gained by using glass-beaded screens is that they do not require a screen illumination of more than 8 foot-candles.

Type (2) has aluminum sprayed on a smooth surface. These screens require only 4 foot-candles for their illumination, but like the glass-beaded screen, the audience should be seated within a viewing angle of 15 degrees from the screen, because they reflect light more strongly within this angle, outside of which the screen-brightness falls off rapidly.

Type (3) when sufficient projection light is available the best type of screen to use is a dull white-surfaced screen made of opaque cloth or possibly some other solid material such as wood, surfaced with a matte white pigment. This type is suitable for use in square rooms where some of the audience might be seated at a wide angle from the screen. Unfortunately these screens require a

Projected Picture Sizes obtained with Filmo Projection Lenses

Lens Focal Length		Distance in Feet From Screen														
On 8 mm. Projector	16 mm Projector	8'	10'	12'	15'	20'	25'	32'	36'	40'	50'	64'	75'	100'	125'	150'
		Width of Picture														
	¾"	4'10"	5'6"	7'2"	9'7"	12'6"										
	¾"	4'0"	5'0"	6'0"	8'0"	10'0"	12'0"									
	1"	3'0"	3'9"	4'6"	6'0"	7'6"	9'4"	11'11"	13'5"	14'11"						
¾"	1¼"	2'0"	2'5"	3'0"	4'0"	5'0"	6'3"	8'0"	9'0"	10'0"	12'6"					
1"	2"	1'0"	1'10"	2'3"	3'0"	3'9"	4'8"	6'0"	6'9"	7'5"	9'4"	11'11"	14'6"	19'3"	22'5"	28'1"
	2½"	1'2"	1'6"	1'9"	2'4"	3'0"	3'9"	4'9"	5'4"	5'9"	7'5"	9'7"	11'3"	15'0"	19'3"	22'5"
1½"	3"		1'3"	1'5"	2'0"	2'6"	3'1"	4'0"	4'6"	5'0"	6'3"	8'0"	9'4"	12'6"	16'7"	19'8"
	3½"		1'0"	1'3"	1'8"	2'1"	2'8"	3'5"	3'10"	4'3"	5'4"	6'11"	8'0"	10'8"	13'4"	16'0"
	4"			1'1"	1'5"	1'10"	2'4"	3'0"	3'3"	3'9"	4'8"	5'9"	7'0"	9'4"	11'8"	14'0"

high illumination, because they absorb more light than the glass-beaded or aluminum type. Approximately 16 foot-candles of illumination are required for these screens.

The edges of the projection aperture are seldom sharp, even when clean, and for this reason, a black border round the screen-edges to act as a mask is desirable.

Most screens sold by photographic houses are made on the roller-blind principle and housed in a case or box which is attached to the screen. This method affords protection to the surface, but if the screen is home-made of the flat rigid type some means of protection must be found which will keep it covered when not in use, as light has the effect of causing a loss of brilliance and discoloration.

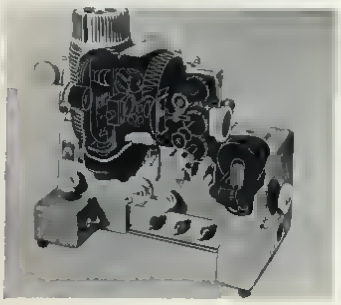
Screen-Size

The average screen-size of a motion picture should be of such dimensions as will create an illusion of reality for the audience. It is difficult to compile tables for amateurs which give the correct picture-size needed for most rooms, because the first consideration for the home projectionist is the shape of the room available and the arrangement of heavy furniture which cannot be moved every time a show is given.

A rule used by architects when planning the screen-size for a picture theatre is that the screen height should be one-sixth of the distance from the screen to the projection-booth. Thus a room 18 feet long needs a screen about three feet high (and four feet long). This rule cannot always be followed, but is one which applies to most rooms where home movies are shown.

The ultimate in home projection is a specially designed projection-booth with a separate room adjoining that can be furnished with a proscenium, comfortable armchairs and light-dimmers, but of course this is beyond the realization of most cine-smiths.

Although a special screen-illumination meter (Weston No. 703) is available for measuring screen-brightness, any exposure-meter which is calibrated in units of foot-candles between 0 and 25, such as the "Master" Weston and The General Electric Meter, is suitable for the accurate evaluation of light being emitted from a cine projector.



Incident light can be measured from directly in front of the projection-lens or from the screen. Reflected light can be measured from the screen. It has been suggested* that the illumination should be measured from the centre of the screen, each of its four corners and the centre of the top, bottom and both sides. A ratio of 80 per cent is considered very good, and is obtainable with some projectors.

Cleanliness Essential

Generally the quality of substandard projection by both amateurs and professionals is deplorable. 35mm. theatre projectionists use great precautions to keep their machines and film free from foreign matter and oil-splashes, but although the magnification in 16mm. is 4½ times more than in 35mm. projectors, sub-standard operators pay hardly any attention to cleanliness.

Leaving film uncovered for days and neglecting to wipe it before projection is a common fault with 16mm. workers, and the main reason why most scratches and "rain" marks appear on the film. A spot of dust is magnified 40,000 times on the screen, therefore cleanliness is essential.

Aperture-plates in substandard projectors should be easily removable to permit cleaning, but unfortunately they are usually fixed and hard to clean. This is one reason why they are often neglected. They should be frequently brushed or wiped with a piece of soft fluffless linen or at times, when a spot is obstinate, a wooden match might be used—nothing harder, as the highly polished projection gate is easily scratched. If it does become permanently marked, it should be taken out and repolished with jeweler's rouge, or replated.

If one spot of film-emulsion adheres to the front or back pressure-plates of the projector it will cause the film to become scratched. But this is not the only cause for the scratches on cine film which are magnified so greatly on projection. Other causes are dirty gate, rewinding the film too quickly, or trying to tighten the film on the reel after it has been rewound. If a high-class projector is kept scrupulously clean it is possible to project one film thousands of times, but because the atmosphere is filled with small particles of dust it is sometimes necessary to clean the film with preparations sold by trade houses for this purpose. If these are not available, chemically pure carbon tetrachloride should be applied with a piece of silk plush or pure linen. Alcohol or cleaners containing alcohol should be avoided, especially for color-films, as alcohol dissolves the dyes used to form the picture.

Sound Projectors

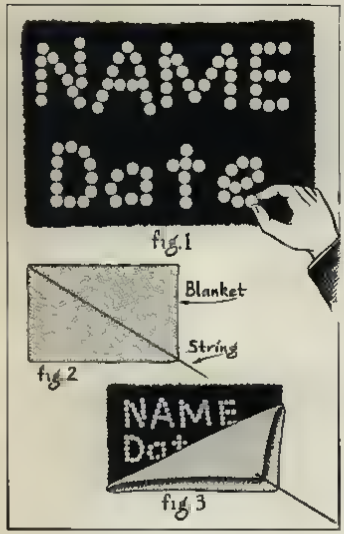
Although at the present time there are three film-sizes of substandard sound projectors available, viz. 17.5mm., 16mm. and 9.5mm., only the 16mm. sound

(Continued on Page 149)

*Journal S.M.P.E., Volume 31, Number 5, p. 483.

Left, phantom view of mechanism of typical 16mm sound projector. Right, sound on 16mm is 25 frames ahead of its accompanying picture.

THE IDEA EXCHANGE



Title For Baby Picture

Recently we purchased a Model 25 Eastman 8mm. movie camera. We've been quite thrilled since with taking color movies of our young son in the house.

Naturally we wanted the title in color too. So we used our dark green rug as a background and printed the name and date on the rug with small red, white and yellow poker chips. (See Fig. 1.)

We then placed a blue baby blanket over the chips and attached a blue thread to the upper left corner of the blanket, as shown in Fig. 2. The thread was then laid across the blanket in line with the lower right corner. When the thread is pulled the blanket will roll back over itself and exposed the printing without disturbing it, as shown in Fig. 3. To conclude the shot the blanket was tossed back on top of the chips.

The printing should be kept in a space 23½ x 17½ inches square at a camera distance of 6 feet. Two No. 2 Photofloods were used.

We have had so many inquiries about this title every time we show the picture that we though some one else might like to try it too.

E. LA VEN.

Projectar Light-Baffle

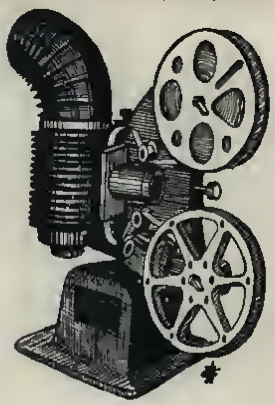
One of the less pleasant features of projecting films with most home movie projectors is the way the ventilating apertures at the top of the lamp-house throw a disturbing glare of light on the ceiling above. I have eliminated this in my Bell & Howell 8mm. projector by means of the simple gadget shown in the sketch.

Simply take an elbow-section of ordinary stove-pipe, of the right diameter to fit over the top of your projector's lamp-house, and place it over the lamp-house as shown, like a backward-angled chimney. To protect the projector from being marred or scratched, cement a strip of plush or velvet around the inside of the stovepipe

The bend in the pipe blocks off part of the light, and throws the rest backward, where it is least objectionable. I have not been able to find any evidence that the pipe I am using interferes in the least with the blast of air that ventilates the lamp.

This gadget is most easily applied to projectors which, like the Bell & Howell, have a round lamphouse; but with only a little snipping and fitting it can be made to work just as well with machines that have square or other-shaped lamp-houses.

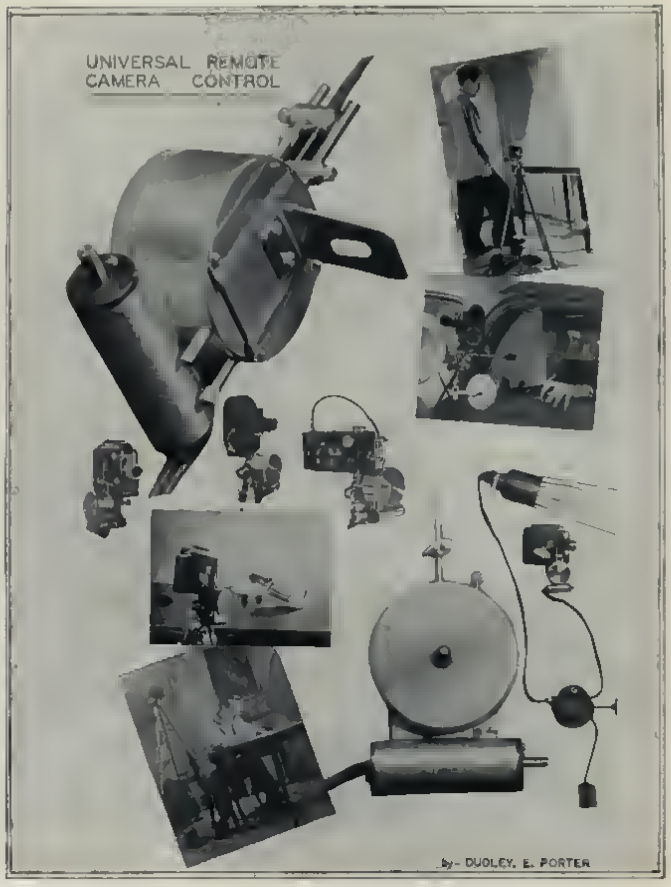
J. L. KINCAID.



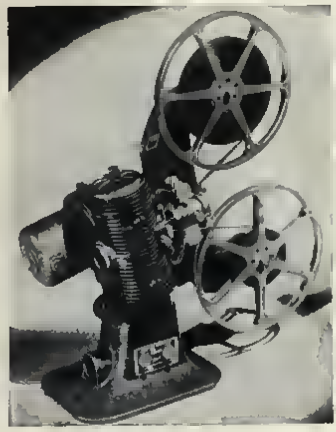
Remote Control

This gadget doesn't exactly come under the heading of easily home-made

(Continued on Page 145)



...THE SHOWCASE...



Filmo Eight "400"

The long-awaited Filmo Eight "400", newest unit in the Bell & Howell 8mm. line, is just announced. Taking 8mm. reels of up to 400-foot capacity, the new "400" will present a full half hour of 8mm. movies without the interruption of changing reels. Yet it retails at a price somewhat lower than its 200-ft. predecessor.

Embodying all the features of the famous Filmo Master 8, the new "400" is said by its sponsors to be the "ultimate in 8mm. motion picture projectors." All-gear drive, B & H pre-aligned and prefocused projection lamp, "floating film," fast lens, power rewind, metered lubrication, two-way tilt, among other features, are claimed by Bell & Howell for the Filmo Eight "400".

At the same time, B & H also announce their new 400-foot, 8mm. reel of spring steel, with its accompanying humidor can of aluminum.

The Filmo Eight "400" is priced at $112.50; 400-foot reels and cans, 60c each.

At the same time, Bell & Howell makes sensational news by lowering prices on previous models of Filmo 8mm. projectors and cameras. The famous Filmo Master 8 projector (200-foot capacity) has been reduced in price to $99.50, and the Filmo "Sportster" 8mm. camera (18, 32, 48, and 64 frame-per-second speed) is now priced at $69.50. Bell & Howell states that neither quality nor features of these popular models have been modified in any way—that the "Sportster" camera and Filmo Master 8 projector are at their new prices the identical models which have been so thoroughly approved by movie amateurs in the 8mm. field.

Kriegr-O-Tone Color Camera

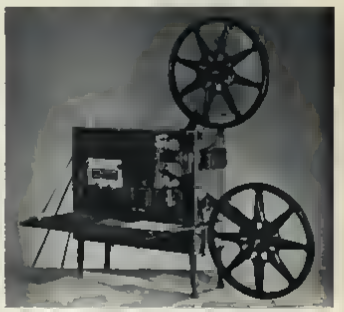
A new addition has been made to the photographic field by the Kriegar Color and Chemical Co. of 6531 Santa Monica Boulevard, Hollywood, California, with the announcement of their new three-color 4 x 5 camera which will retail at what is said to be the lowest price of any color camera on the market. It is announced as bringing color photography within the price-range of thousands of amateurs' purses by selling at $147.50 complete with a 7¼-inch Velostigmat f:6.3 lens employing a Betax shutter having speeds up to 1/100 of a second.

The camera-case is all metal, carefully designed for strength and light weight. The total weight with holders and lens shade does not exceed six pounds and the grip-handles are mounted in a natural position for the hands with the trigger release at the tip of the right thumb.

The new fast Defender type B tri-color combination film is used and as this film has a Weston Daylight speed of 6, small apertures and fast shutter speeds can be used for sharpness and action-subjects. For daylight shooting, a KB-6 filter is used, and a KF-1 filter is necessary for flash-bulb shots. The two filters, filter holders and lens-shade are accessories and sell for $3.75. No filter is necessary when using the photoflood light-source.

The 7¼-inch focal length lens can focus from 22 inches to infinity and is mounted on an adjustable lens-board for vertical and horizontal tilts.

Although the Krieger Dye Company will develop and make prints from customers' negatives at a small charge, a dye kit can be purchased which is, in itself, a miniature darkroom for color work. The dyes, magenta, yellow and blue, make a gallon of each color solution. Other necessary chemicals such as of ammonia, buffer and acetic acid, are also provided. Each camera sold will be registered and the buyer will be given an actual print with negatives made with that particular camera. Full instructions for loading and using the camera and for making paper prints in color are provided to acquaint the purchasers with the ease of color photography. The camera is well adapted for aerial, news, sports, commercial and portrait photography. The new camera is far removed from the experimental stage after many months of exhaustive research.



New Sound Kodascopes

Five new 16mm. sound-on-film projectors, priced from $295 to $520 and covering a wide range of school, industrial and home uses, are announced this month by the Eastman Kodak Company. The new machines are similar to one another in general design, but are differentiated in power-output, soundproofing and other features. Available power-output of the various models ranges from 10 watts up to 40 watts, with both double and single-speaker units available. According to the Eastman announcement, projection-light output appears to be standardized at 750 watts. Six projection-lenses ranging in focal length from 1-inch to 4-inch, and in speed from f:2.5 to f:1.8 are available to suit different projection distances and screen-sizes. All models accommodate 1600-foot reels.

The mechanical design of the new Sound Kodascopes adheres to the usual Eastman standards of efficiency and durability, while the amplifiers, speakers and associated electrical equipment are of similar quality. In each of the new machines special provision is made for smooth, unvarying movement of the film past the sound-scanning aperture, and either variable-area or variable-density sound-tracks can of course be used.

Lowest in price of the new models is the Model FS-10, stated to be especially suited for home use. It is to retail at $295 complete with 2-inch f:1.8 lens, 750-watt lamp, all tubes, speaker and speaker-cable, spare exciter-lamp, etc. This model has a rated sound-output of

(Continued on Page 144)

Picture Possibilities in the West Indies

By
CHARLES W. HERBERT
A. S. C.

MARTINIQUE is the capital of the French group. If you are making the trip there during the day, you can often have the opportunity of getting effective shots of Mt. Pele, cloud capped, as you sail by. The harbor of Fort de France is usually active and there are good shots of the town from the steamer. The town itself is good for a day's work with parks, monuments and government buildings vieing for honors with the vari-colored business houses.

Kodachrome is indispensible in Martinique. Be sure to get the native women in gay-colored dresses making and selling chic Martinique dolls to the tourists. They also sell madras bandanas which they arrange on the tourists' heads with the greatest of ease.

Montserrat and St Lucia are next but they are not outstanding since you have already seen so many other islands similar in physical aspects, customs and industry.

But St. Vincent in the Windward group has worthwhile attractions. Here is the center of the starch industry. Both the field harvest and the factories are picture-possibilities. Off the coast is a historic rock two hundred feet high on top of which are some cannons used in early-day defense. Scenes from here are as commanding as were the cannons.

Along the waterfront on St. Vincent you can always find one or more large schooners being built. There are many angles from which you can shoot with dramatic composition, especially when the keel and ribs are in place and before the bottom planking is laid. If you are lucky enough to be in St. Vincent during a launching you will have a rare opportunity for a newsworthy sequence.

Should you be making a leisurely jaunt through the islands it would pay you to take a small sail-boat over to Beckway, where you can find more and larger boats being built down on the beach.

South is Grenada, the Spice Island—well named as it is the real center of the spice industry of the West Indies. Here mace, nutmeg and cocoa are raised in commercial quantities for export to many countries of the world. Color is also indispensible here. Make a trip out into the country and visit one of the plantations. Harvest-time is busy time. There's lots of action and usually you can get all of the processes on the same plantation. Men gather the spice in the forests and bring them into the drying yards. Here a large crew of women separate the mace from the nutmeg pod while other women crack the nutmeg shell with little wooden mallets and remove the nuts too quickly for

Doll-vender, Martinique

your eye to see. Slow-motion is useful here. Other women split open the cocoa pods and take out the seeds while still others dance with bare feet on the cocoa beans to polish them. The whole scene is one of rhythm and synchronized action and offers a splendid chance for you to build up a dramatic sequence in convincing tempo

St. Georges, the principal town of Granada, is built on three hills that fringe the perfect little harbor. There are many points of vantage from which outstanding general views can be made. You will have to toss a coin to decide which scene to make, and you will have to control a desire to shoot everything you see. Towns built on hillsides seem to have so many fascinating angle-shots. Flowers are in all the yards and you will find many native types around the markets and waterfront which you will want to shoot for close-ups. Grenada was French at one time, and some of the French-style buildings are still in evidence.

There is a novel little feature which you can get at any one of these houses. They all have a type of three-sided vestibule which projects out to the sidewalk. Inside it connects with the living room. Shutters with slats that open and close enclose the vestibule and there is always a chair inside where the lady of the house can sit and peep through the shutters to see what is going on in the street without being observed herself. The logical sequence here should start with a general view of the house followed by a close-up of the shutter as it opens slightly and a pair of eyes are seen through the narrow opening. Then a general view of a lady sitting inside peering out, followed by a head close-up of her. Next, by putting the camera close to the shutter, you can make a scene of whatever action there is in the street which she has been observing. This sort of a sequence can run pretty long if you can keep up a variety of action outside with various types of people walking past unmindful of your camera.

From Granada your trail should lead east to Barbados, which is another little England. You could make a complete reel here if time and your wishes permitted. The Careenage at the waterfront in Bridgetown is a beehive of activity with countless sailing vessels tied up, unloading lumber and dried fish and loading molasses and sugar, while others are undergoing repairs. The government buildings and squares are all good subjects and there's a type for a close-up at every turn.

The mounted police squadron can be found drilling every morning on the old barracks parade ground. Rural postmen on bicycles and in donkey-carts are worth developing into a complete sequence as they give logical action for many interesting road and rural scenes.

The huge windmills which grind sugar-cane dot the landscape and turn in a fascinating rhythm that beats the tempo for a complete sequence of shots of the natives bringing in cane to the millhouse and carrying away the refuse. The massive gears that turn the grinding rollers make dramatic close-ups. The juice running down a trough gives you the carry-over shot to the boiling-house where a variety of shots can be made to tell the story of this primitive yet well-tried process that produces the finest sugar-cane syrup in the world. The powerful sails turning in a fresh breeze seem to beckon to you to shoot from all angles, early in the morning, at the first streak of dawn, on through the day to high noon and on and on to the setting sun.

Landing at Saba

On the east coast there are extensive beaches and rock-studded shores. From a small cove a fleet of sailing vessels go out most every day through the swift-running surf. Get aboard one of these boats and you will be rewarded with some real sailing shots, particularly since they stay so close together that you can shoot several at one time from your camera position. They go out to the fishing banks and really capture flying fish with cleverly contrived nets. The trip back to port through the surf is more dangerous and thrilling than the passage out. Don't forget a general view of the whole fleet, which can be made from the shore on another day.

Since Barbados enjoys a large winter tourist trade there is a lot of activity around the beaches, hotels and private estates if you want this feature. The best chance to make shots of native boys diving for coins is when your ship arrives or leaves Bridgetown.

Trinidad, to the southwest, is another island where you can make a complete travel-reel. There's always plenty of action down around the waterfront and Port of Spain is a town of enough size that it really buzzes like a city downtown. The buildings are all unusual with gaudy balconies covering the sidewalks. Some business houses have their whole sides painted with advertising signs and crude pictures. Others move out a good amount of their stock and hang it on wires until the whole building is obscured. Price tags seem to battle with the goods to see which can take up the most room.

The modern government buildings are a striking contrast to the typical old buildings. Negro "bobbies" direct traffic with proud authority. The Botanical Gardens will give an opportunity for some shots of unusual trees and plants. On the far side of the island large coconut plantations are particularly picturesque as the trees are so tall and many of the plantations come right down to tropical beaches in placid bays. Get a pattern of these trees against the skyline with ocean background and clouds. Then have some native boys climb up the trees like monkeys. If you stop 'way down for the sky and water the trees and boys will be recorded in silhouette.

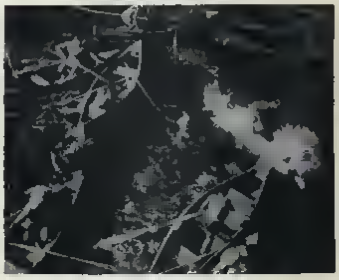
Trinidad has rightly been called the melting-pot crossroads of the West Indies. Chinese, Japanese, Filipinos, East Indians, Sikhs, Portugese, Negroes, Spaniards and English are all there, each retaining some of their homeland traditions, customs and dress. An effective sequence can be made showing these various mixtures as they have become assimilated in the various walks of life.

The East Indians do most of the farming and you can get shots that might just as well have been made in their native land. Hindu temples dot the landscape and the priests are serious in their devotional rites and never hesitate to put on an act for a tourist who donates.

The asphalt lake for which Trinidad is world-famous is in itself very disappointing to the photographer. But if you can build up a sequence with scenes made of men digging up the pitch and follow on through the plant and along the overhead conveyor that carries the barrels down to the steamers, it will be a feature. You would have to arrange to be there on a day when the steamer is loading to accomplish this.

Although Curaçao does not rightfully

(Continued on Page 150)



Native diving-boys, Barbados

PHOTOGRAPHY OF THE MONTH

WESTERN UNION

Twentieth Century-Fox Production (Technicolor).

Directors of Photography: Edward Cronjager, A.S.C., and Allen Davey, A.S.C.

In "Western Union," directors of photography Edward Cronjager, A.S.C., and Allen Davey, A.S.C., have excelled themselves. They have turned out one of the most spectacularly beautiful examples of color cinematography we've seen in many months. Indoors and out, they make "Western Union" a visual treat.

The greater part of the action is played outdoors, and while the locations chosen are certainly not literal representations of the actually rather drab region in which the historical events depicted really happened, they give the color camera magnificent pictorial opportunities, of which Cronjager and Davey take full advantage. From beginning to end, "Western Union" is a pictorial delight. Composition, camera-angles and lighting in these sequences are all planned to get away from the flat effect so often seen in Technicolor exteriors. One early scene, for instance, is memorable. In this the action is played in the foreground, in a half-shadow, while contrasted against a brilliantly sunlit background of vividly-colored buttes. The lighting contrast in this not only adds to the pictorial value, but aids in concentrating attention on the actors.

While interiors are in the minority, they, too, are very well handled. Many of them are effect lightings, and Cronjager and Davey make excellent use of the possibilities offered for forceful lighting, especially of the male players. There are some close-ups of Randolph Scott, with his strongly modelled face the only touch of color against a background of rich, velvet-black shadow, which are worth particular study.

Inevitably there are a few flaws in the production. For example, both cutting and camera-treatment are at fault in one sequence in which Dean Jagger, after some lamp-lit scenes inside a tent, steps out into the night. The change from the warm tones of the lamplight to the colder bluish tones of the moonlight effect as the cutting reverses the angles on Jagger's exit comes so abruptly as to be rather a shock. Also, the projected-background process work could in some instances have been considerably improved.

NICE GIRL?

Universal Production.

Director of Photography: Joseph Valentine, A.S.C.

In "Nice Girl?" Deanna Durbin grows up. What's more, thanks to the skill of director of photography Joseph Valentine, A.S.C., she grows up before your eyes in the course of the picture's 95 minutes of screening time. In the early sequences, Deanna is very much the youngster she has been for five years and eight pictures since Valentine's lens first introduced her in "Three Smart Girls;" but before the film is ended, she has matured to such extent that it is no shock to see her sipping champagne while appearing in remarkably sophisticated lounging pajamas.

And for this transition, it is Valentine's photographic skill, rather than any changes in make-up or costuming, that is responsible. He has handled it with subtlety, yet to such point that at the end one realizes that if Deanna keeps on making pictures, and Valentine photographing them, Universal will soon have a new glamor girl on its hands.

From the strictly photographic viewpoint, "Nice Girl?" is excellent, even though not as spectacular as some of Valentine's previous works like "Spring Parade." To this reviewer, however, "Nice Girl?" was in many respects the more satisfying of the two, for Valentine's camerawork and lighting had an effortless smoothness that are indicative of the work of a real master of the camera.

THE HARD-BOILED CANARY

Paramount Production.

Director of Photography: Theodor Sparkahl, A.S.C.

"The Hard-Boiled Canary" is one of the most completely pleasing musical films we've seen this season: real music—and plenty of it—presented with outstanding sound-recording and excellent photography combine to make it outstanding eye-and-ear entertainment.

Unfortunately, Paramount previewed a print which had been knocking around the studio for several months and was in such bad condition that it is rather difficult to evaluate Theodor Sparkul's camerawork properly. However, one gains the impression that, while not perhaps on a par with his best work, his contribution to "The Hard-boiled Canary" is considerably more than adequate. Certainly, he presents young Susanna Foster more favorably than she has looked in previous appearances, and his treatment of the exteriors—and what a pleasant thing it is to see exteriors that don't all seem to have been made economically on a stage!—is excellent. His treatment of the interiors is excellent, indeed.

But the real stars of the picture are Recording Engineer Harry Mills and Re-recordist John Cope. Between them they have turned out a recording job which will probably stand for a long time as the finest obtainable by conventional methods. Had "The Hard-boiled Canary" been recorded in Fantasound, Stereophonic, or even one of the control-track multispeaker systems, this reviewer would not have been surprised: but to hear musical recordings with such magnificent tonal and volume range coming from a standard track is absolutely astounding. Inquiry proves that the music was originally recorded on a special 200-mil variable-area track, and then re-recorded to a strictly standard variable-density release-print track. Especially in their recording of the Grieg A-Minor Concerto, they have turned out one of the most magnificent recording jobs since pictures first began to talk.

The special-effects and transparency work in the film are excellent. The transparency work, of which there is a considerable amount, stands greatly to the credit of transparency-expert Farciot Edouart, A.S.C., even though by some mischance neither he nor any member of his staff received screen credit.

THE STRAWBERRY BLONDE

Warner Brothers Production.

Director of Photography: James Wong Howe, A.S.C.

This remake of a success of some five or six years ago—originally filmed as "One Sunday Afternoon"—is played more markedly for comedy than its predecessor. This treatment inevitably restricts director of photography Howe's treatment of the film to a considerable extent. None the less, within the limits of the rather routine treatment possible, he has handled the picture excellently.

It is interesting to realize that with the exception of a few sequences filmed on the studio back-lot, the entire production was done indoors on the stage. The entire sequence in the park, where James Cagney for the first time meets the two leading ladies, is an example of this. The park setting was constructed indoors, yet Howe's skill in lighting makes these scenes appear convincingly as though filmed outdoors. The night-effect lightings he obtains on some of these indoor exteriors are especially praiseworthy.

ADAM HAD FOUR SONS

Robert Sherwood Production, Columbia Release

Director of Photography: Peverell Marley, A.S.C.

Marley had much to work with in making this film. The majority of the sets are large and sumptuous, while the action covers a wide range of emotional moods. His treatment of it definitely enhances both. The effect-lightings, of which there are many in the production, are particularly interesting.

WINNERS

For Best Photography

As determined by
The Preview Poll—
"HOLLYWOOD REPORTER"

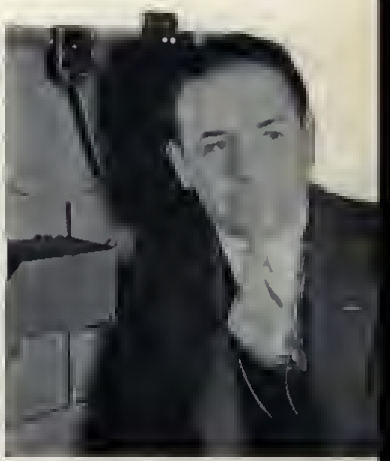
BERT GLENNON
Director of Photography

WILLIAM V. SKALL
Technicolor Director of Photography

GUY ROE
Operative Cameraman

PAUL HILL
Technicolor Technician

PAUL UHL
Assistant Cameraman



PARAMOUNT'S
Technicolor Production
"VIRGINIA"

EASTMAN

Negative - Sound Track - Positive

BRULATOUR SERVICE

Academy Award

(Continued from Page 103)

ing, to Anne Bauchens for "Northwest Mounted Police."

It may be noted, too, that the Award for the best one-reel short-subject, given to Pete Smith's "Quicker 'n a Wink," was to a picture which depended for its entire appeal upon a new development in photography. This unusual film was made to illustrate the unusual effects of super-slow-motion movies made by means of the Edgerton high-speed stroboscopic flash at camera-speeds up to 2,000 frames per second.

The non-technical Awards were: Outstanding picture, "Rebecca," David O. Selznick; Best Performance by Actor, James Stewart, "Philadelphia Story;" Actress, Ginger Rogers, "Kitty Foyle;" Supporting Actor, Walter Brennan, "The Westerner;" Supporting Actress, Jane Darwell, "The Grapes of Wrath;" Direction, John Ford, "The Grapes of Wrath;" Original story, Benjamin Glazer and John S. Toldy, "Arise, My Love;" Best Written Screenplay, Donald Ogden Stewart, "Philadelphia Story;" Best Original Screenplay, Preston Sturges, "The Great McGinty;" Best Original Score, Leigh Harline, Paul J. Smith and Ned Washington, "Pinocchio;" Best Scoring, Alfred Newman, "Tin Pan Alley;" Best Song, "When You Wish Upon a Star," Leigh Harline and Ned Washington, for "Pinocchio;" Best Cartoon, "Milky Way," Rudolph Ising-MGM; Best One-reel Short-subject, "Quicker 'n a Wink," Pete Smith-MGM; Best two-reel Short Subject, "Teddy, the Rough-rider," Warner Bros.

Special Awards were made to comedian Bob Hope for his unselfish services to the motion picture industry, and to Colonel Nathan Levinson for outstanding service to the motion picture industry and to the Army during the past nine years which made possible the present efficient mobilization of the motion picture industry facilities for the production of Army training films.

The Academy's usual special Irving Thalberg Memorial Award, given annually for the most outstanding production achievement by an individual producer, was not given this year as the Committee felt that no individual achievement was sufficiently outstanding to merit such an Award.

The Awards Banquet itself was precedent-making in that it marked the first time that the President of the United States addressed the motion picture industry. Speaking over a special radio network from the White House in Washington, D. C., President Roosevelt said:

"To my friends of the motion picture industry whose representatives are gathered from far and near for the annual awards dinner of the Academy of Motion Picture Arts and Sciences. In these days of anxiety and world peril our hearts and minds and all of our energies are directed toward one objective—that objective is the strengthening of our national defense. Every day that passes we realize that more and more things in our lives must be available in just such proportions as they contribute to the national defense.

"The American motion picture as a national and international force is a phenomenon of our own generation. Within living memory we have seen it born and developed. We have seen the American motion picture become foremost in all the world.

"Today our problem of national defense has become one of helping to defend the entire western hemisphere. You can no longer consider our own home problem of defense as a separate one. It involves the defense of all the democracies of the Americas and, in fact, it involves the future of democracy whenever it is imperilled by force or terror.

"An all-important factor in hemispheric defense of democracies is the Lend-Lease Bill, whose early enactment by Congress we anticipate. It is our place here and now to acknowledge the great service which the news-reels have performed in acquainting the public of America of the various legislative stages.

"The cooperation which has been shown by the three Americas in defending all the entire western hemisphere is the natural outgrowth of our own good neighbor policy, in our relations with the other American Republics. We have been seeking to affirm our faith in the western hemisphere through a wider exchange of culture and ideals, and through free expression among the various nations of this hemisphere. Your industry has utilized and is utilizing its vast resources of talent and facilities in a sincere effort to help the people of the hemisphere to come to know each other better. In carrying out the program of advancing continental defense, our government has established machinery to coordinate our growing commercial relations with the other republics.

"Our government is inviting you to do your share of the job of interpreting to the people of the western hemisphere their thoughts, to one another and all of us. All 21 republics in the Americas and Canada are grateful that your response is so immediate and so whole-hearted.

"I do not minimize the importance of the motion picture industry as the most popular medium of national entertainment. Tonight I wish to place the chief emphasis on the service you can render in promoting solidarity among all the people of the Americas.

"For all of this and for your splendid cooperation with all who are directing the expansion of our defense forces, I am glad to thank you. In the months and weeks that lie ahead, we in Washington know that we shall have your continued aid and support."

The President's address, coupled with the presence of Major General John O. Mauborgne, Chief Signal Officer of the Army, and other high-ranking officers of the Army and Navy, gave a new and serious significance to the motion picture industry's most important function, and to the importance of that industry in the present national emergency. Possibly it was this thought, as well as the glittering assemblage of more than 1400 stars, directors, cinematographers, writers, executives and technicians which inspired Academy-president Walter Wanger in his brief introductory command when, harking back to the founding of the Academy 15 years ago, he remarked, "It just shows what a Hollywood idea can do—when it's right."

National Defense

(Continued from Page 109)

The thorough-going magnitude of the industry's cooperation in this project may best be gauged by Col. Levinson's statement that as the Army's Hollywood movie-making project gets completely under way, as many as 20,000 members of the industry will at one time or another be cooperating. The amount of production envisioned may be estimated from General Mauborgne's statement that at present his office plans to spend close to a million dollars a year for Army Training Films "and," he adds, "the way every detail of the Army's program is expanding during the present national emergency, you needn't be surprised if our film budget should be expanded four-fold."

Movie-making is no new thing to the Signal Corps. During the last war there were many Signal Corps still and movie units in the field, many of them including men now members of the A.S.C., making a complete photographic and cinematographic record of America's participation in the war. Some few training films were made during that war, and immediately thereafter, too; the present list still includes a few subjects of this nature filmed in 1920-21.

But it is only within comparatively recent years that the Army has gone into motion picture production on an extensive scale. Beginning in 1930, the Signal Corps, at the invitation of the Academy, has sent one or more officers to Hollywood for intensive practical and theoretical training in all types of motion picture making—production, direction, cinematography, sound-recording, film-processing, sensitometry, cutting, and the like—under the guidance of the industry's leading specialists in these fields. First to come was Col. (now General) W. E. Prosser who after some nine months' practical instruction in Hollywood returned to active duty with the Army. As he was joined by other Hollywood-trained officers, the present Motion Picture Section of the Signal Corps' Photographic Section was organized.

During the intervening years, according to General Mauborgne, the Army's movie-makers have made from 20 to 40 training films annually. While recent developments in some phases of tactics and military equipment have naturally

rendered some of these films obsolete, the Army's current list includes approximately 200 training films in active use.

"The value of these films for training large numbers of new troops will be obvious," General Mauborgne comments. "Suppose, for instance, we want to teach a group of selective service enrollees the assembly and operation of a machine-gun. The conventional method would be to assemble the men in a group around a skilled machine-gunner—usually a Sergeant—who would take a gun apart, put it together again, and fire it, explaining as he went along. No matter how well he explained things, his teaching would be of value to only the comparatively few men in the group who were close enough to see clearly what he was doing, and hear what he said.

"With a motion picture, on the other hand, we can show the same basic action to several hundred men at a time, making each detail absolutely clear by means of close-ups, animation, narration, and similar devices. Moreover, we can make as many prints of this film as we may need, so that we could be instructing several hundred such audiences at once.

"In some of the other, broader phases of modern military science, the motion picture is almost the only way we can bring home the broad picture to the student, whether he is a commissioned officer or an enlisted man. For instance, the cooperation of mechanized units, aviation, artillery and infantry in the field is a most essential part of modern mobile warfare. Yet in actual manoeuvres, the individual soldier in any branch, regardless of whether he is an officer or an enlisted man, cannot easily grasp the broad picture of the operation; his understanding is hemmed in by his personal horizon.

"But by a properly-made motion picture we can bring him the whole story of the operation, showing him on the screen just how his immediate duty of running a tank, handling a machine-gun or stringing a field telephone-line is integrated with each other part of the operation as a whole. Once he grasps this broader picture of the problem, he is a far more valuable man in his individual capacity. Only by motion pictures can we bring him this broad picture.

"Let me say, too, that these pictures will be thoroughly up-to-date from a military standpoint. The U. S. Army has had, and still has, its observers with the various forces in the present war abroad. Their reports are enabling the various branches of the service to keep thoroughly abreast of developments. Our motion pictures will naturally reflect that progress and bring it in clearly understandable form to the men in the field."

Some of the films it is stated, can be made more conveniently by the Signal Corps' existing motion picture units; others will demand technique and facilities which can only be found in Hollywood; still others may probably require the cooperation of both. There can be no set form for these films. Some subjects can best be made as silent pictures, with an explanatory narrative added. Others may require dialogue, sound-effects, music and every embellishment of a professional production. In the same way, some films may call for a strictly factual presentation, while others would have enough of a story to give the film a sugar-coating of entertainment as well as instructional value.

We know we are by no means the first to use motion pictures for this purpose. The Germans, for example, who have long been keen students of the educational use of movies, have during recent years been known to be making intensive use of such films for military training purposes. The use of these films probably explains in some part the remarkable speed of Germany's rearming. But no other nation in the world has such a concentration of outstanding creative and technical motion picture talent as our own country, for there is only one Hollywood. And with the help that Hollywood is already giving the Army is confident of obtaining even superior results.

The Signal Corps is the Army's centralized agency for making films for all branches of the service, though certain of the other branches, like the Air Corps, for example, have their own Photographic Sections. The production of a present-day Army film therefore begins when the Chief of that particular branch makes a request to the Chief of Staff for the production of such a picture. If the request is approved, the matter is then turned over to the Motion Picture Section of the office of the Chief Signal Officer, and arrangements are made for the film's production. If this is to be done through the motion picture industry, the Army's resident liaison officer in Hollywood, Major Charles S. Stodter of the Signal Corps, who as a lieutenant was among the Army's first Hollywood trainees, calls into conference Col. Levinson and his associates on the Research Council and the Motion Picture Producers' Defense Committee, to lay definite plans for making the picture.

One or more officers from the branch or branches of the service involved will then be assigned to duty in Hollywood, to collaborate in the preparation of the script and to act as technical director of the film. At present, it may be mentioned, two officers are on such missions with the industry—Col. Gordon P. Savage, of the Infantry, and Major John L. Ballantyne, of the Cavalry, who are aiding in the preparation of a film dealing with the cooperation of motorized cavalry and light machine-gun platoons.

The script finished, it is submitted to the Chief of the branch or branches of the Army for which the film is being made. Once the script is approved, the picture goes into production like any other of Hollywood's products, with of course the single exception that War Department secrecy is necessarily involved in every step. When the film is completed, it is submitted to the inspection and criticism of the chief of the arm involved and, if approved, is turned over to the War Department. Release-prints are made in both 35mm. and 16mm., according to the intended use of the picture. In some instances, studio or commercial laboratories may make these prints; the Eastern plant of Consolidated Film Industries, and the DeLuxe Laboratory, of New York, have both made release-prints of the present Army films. In other instances, part or even all of the printing may be done in the Army's own two motion picture laboratories at Wright Field and Ft. Monmouth.

Some idea of the efficient mechanism set up for this production may be gained from the General's statement that in the making of the first Hollywood-made Army Training film, between receipt of official approval to make the film and the start of actual shooting, only ten days elapsed, while Director Ford and Director of Photography Barnes brought the three-reel production to completion in less than the allotted shooting schedule, and considerably under the planned $8,000 budget.

The present Signal Corps motion picture project is fourfold. Within the service already are two well-equipped and well-trained motion picture units, with laboratories established at Wright Field and Ft. Monmouth. As the Army grows, it is planned to expand the Signal Corps Photographic Section so that a mobile Field Photographic Unit, completely equipped and trained for all types of still and motion picture camera and laboratory work, can be attached to each army. In doing this, both the enlisted and officer personnel of the Signal Corps must inevitably be greatly expanded. The Signal Corps, already short of photographically trained officers, is planning to set up in the near future its own specialized Officers Training Camps. Here volunteers, and especially photographic and motion picture trained selective service enrollees will, on the completion of a minimum period of enlisted service, be given training to qualify themselves for commissions in the work in which they specialized in civilian life.

In addition, the nucleus of a GHQ Photographic Unit is at present being formed in Hollywood (see AMERICAN CINEMATOGRAPHER, February, 1941, P. 94). This basic unit will consist of experts in every phase of production, including photography, cinematography, sound engineering, laboratory work, editing, and the like, chosen from the industry's studios with such care that no one studio would be denuded of its trained personnel in case the unit enters active service. Although this unit is now being organized, it is, so to speak, planned as a group of motion

picture "minute men;" no one is being asked to formally enlist at this time, and its members would be called to serve only in event of actual war. The GHQ Photo Unit would serve as a base unit supplementing the Field Units, though its members might on occasion be sent into the field on special assignments, or detached to form the veteran nucleus of an expeditionary unit.

Finally there would be Hollywood itself, with the resources of the motion picture industry thrown into the making of further films as might be needed.

Much of that, however, is in the future. For the present, Hollywood's post in the National Defense Effort is the important one of making films to train America's growing army. And Hollywood is already doing this enthusiastically and efficiently. As General Mauborgne expresses it, "The motion picture industry is performing an essential job in the National Defense, and doing it as no other industry could. We have been making motion pictures in the Signal Corps Photographic Section long enough so we know that we can turn out a given footage for less money than our Hollywood-made films are costing. But it would be only a comparable *footage;* it would not be a comparable *picture.* Only by turning to the great group of world-leading creative and technical specialists who form the motion picture industry could we get our ideas put on film with the skillful touch which has made Hollywood the center of the world's motion picture production.

"In most instances of military procurement, we necessarily have to call for competitive bids, to assure efficient expenditure of the money available. But here we find every producer and organization in the industry cooperating to give us what we want, with no slightest thought of profit or personal glory. The only rivalry between producers, directors, cinematographers, writers and all the many other specialists whose aid we so greatly need seems to be to find who can give us the most. Thanks to the untiring efforts of Col. Levinson, Lt. Col. Zanuck, and Capt. Mitchell, when the present national emergency arose and we turned to the industry for help, we found the industry mobilized and ready for action. We can none of us foretell what the future may hold for America, but we can be sure that Hollywood is doing its part to assure the U. S. Army of training films that will help make the American soldier the best-trained in the world."—END.

Williams Lab.

(Continued from Page 110)

laboratory. In the Williams Process of composite or trick photography, it will be recalled, extremely precise control of the density and contrast of the travelling mattes was essential, and Williams found it necessary to do his own processing to obtain this control. When sound entered the industry, it was but a step to yield to requests that he lend his facilities to the exacting requirements of sound-track processing.

In conjunction with Williams' special-effects cinematographic work, he points out, the various film manufacturers had evolved special fine-grain positive and other emulsions to his order. Experiments in using some of these emulsions for recording, for the making of dubbing-prints, and similar uses, followed, first as a matter of curiosity, and later because of the improved results obtained, with the result that some studio sound departments began to order these emulsions for their own use. As a result, both sound engineers and film manufacturers began to study the possibilities of these emulsions, and today Williams proudly points to the fact that every one of today's many fine-grain emulsions is either a product developed for his use in special-process cinematography several years ago, or a type evolved from one of these original products. Meanwhile his plant has been, and still continues using these emulsions for sound and picture purposes wherever they have been found beneficial, and the plant is today one of the few completely equipped and accustomed to handle any type of fine-grain printing or processing.

END

Ray Rennahan

(Continued from Page 108)

tographers as partners. We also run the fullest possible range of production conditions and subject-matter. One day, for instance, I may be working on a really big major production like 'Gone With the Wind' or my present assignment, 'Blood and Sand'; a few days after that assignment closes, I may be sent to some other studio to direct the photography of a little three-or-four-day short-subject, or even a commercial film, in either of which instances time and resources are likely to be as limited as they were abundant on the major studio 'special.'

"This constant change means you don't have any chance of getting into a rut, technically or artistically. One day you're working on a big picture where time and money hardly count, and the main thing is to achieve perfection in each scene. The next, you have to slap it out fast, cutting corners wherever you can to save a few moments or a few dollars — and the results on the screen have still got to be good!

"About the only variable we miss that a free-lance monochrome cinematographer has to contend with is constantly changing from the processing standards of one laboratory to those of another. All of our work must of course be processed by the Technicolor laboratory. Still, what with advances in negative sensitivity and constant improvements in negative processing and printing methods, our lab has certainly done its bit to keep us from getting mentally stagnant!

"And I think everyone will agree that that laboratory has done a remarkable job. When you consider the technical problems involved in any type of color-photography, and the variables involved in developing three negatives, balancing prints from the three to form a complete three-color positive, and the innumerable peculiar habits of even the most perfectly standardized dyes, you'll realize what a job they have. And in spite of it all they've refined the process to a point where today we accept consistently good color-prints as a matter of routine.

"Even within the past couple of years, processing improvements have made an enormous difference in the freedom with which anyone who photographs Technicolor can work. Just a few years ago, for instance, shadows were something which, unless you were in a position to gamble on results, most of us preferred to avoid. Today we can use shadows in Technicolor—not only that, but they are richer than the best obtainable in black-and-white, for we can get real, healthy blacks, and add to it the heightening effect of color-contrasts. Any colored object—a face, a hand, a dress—stands out more vividly when contrasted with one of the velvety shadows today's Technicolor can give you.

"And speaking of faces, there's one thing that tends to suffer under some of the production methods used by some studios making Technicolor pictures today. Any cinematographer knows the importance of make-up and of thorough understanding and cooperation between the make-up artist and the director of photography. In Technicolor, it's doubly important, the more so because good color make-up is a comparatively new thing, and one which can be learned only by experience. I don't think the make-up artist lives who can do a really satisfactory job on his first color picture. He's got to learn the restraint necessary for good color make-up.

"Of course with the constantly increasing number of color productions being made, more color-trained make-up artists are being needed, and men who have not previously had experience with color make-up must somehow be given the chance to get it.

"But when, perhaps only a short time after finishing a Technicolor picture at a studio, you return to that studio for another picture and find an entirely different man in charge of the picture's make-up—well, it doesn't seem quite logical to me. Especially when you find —as I have on many occasions—that the make-up man you worked with before, and carefully trained in the requirements of color make-up—is still on the studio's payroll and without an assignment. You'd think the studio executives would naturally put the man with color experience on their color production, wouldn't you? After all, in addition to deciding in the first place to enhance that production with color, the studio has gone to considerable trouble and expense assigning a production cinematographer like Ernest Haller, A. S. C., or Ernest Palmer, A. S. C., and a Technicolor cinematographer like me or one of the other Technicolor staff cinema-

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tographers to the picture. We're supposed to see to it that the players' faces are presented in color to the best advantage on the screen: but we can't do it if those faces aren't correctly made up

"I'll admit its all to the good that as many make-up artists as possible be trained in color make-up. But letting them teach themselves by trial and error on actual production doesn't make very good sense to me. Wouldn't it be a lot better to assign the man they knew to be experienced in color as make-up man on the picture, and then let the man they wanted trained work with him as a sort of junior associate? In that way, the production would be assured correct make-up and normal faces from the start, and the make-up man would learn by doing things the right way, rather than by bit-or-miss experimentation.

"Really, the day of radical technical experimentation in Technicolor is over. Of course technical advances are coming, but we'll be able to take them in stride, Meanwhile, there have been enough Technicolor productions made in almost every major studio so that we've built up a mighty good backlog of technical knowledge. The technical factors involved in making a satisfactory Technicolor production are now almost as familiar as those involved in doing the same scene in monochrome.

"But speaking as a cinematographer, I'm very sure we haven't even begun to scratch the surface of the things we, as artists, can do with color. All of us who have worked at all with color—and most of those who haven't had that opportunity, as well—have ideas which, once the right production opportunity arises, we want to try out. With the constantly increasing number of Technicolor productions being made, the opportunities for putting into effect more and more of those ideas are going to present themselves. On some productions we can make use of the added literalness of color for greater realism. On others, we can make use of the added beauty of color for greater pictorial effect. And on yet other productions we can cinematic language, making use of color to heighten any dramatic mood, just as in monochrome we use lighting for mood and effect. The basic tools are ready and familiar in our hands and as we learn to use them completely, I am confident we will see cinematography go on to new heights of beauty and dramatic expressiveness, for color, added to form, tone and motion, gives us the completely expressive medium of which for nearly fifty years cinematographers have dreamed. Technical advances will come, but in the long run, we will find the real future of color cinematography in the hands of the cinematographers!" END

Landers Moving

Sam Landers, A.S.C., proprietor of the well-known Landers Camera Rentals, announces that on and after March 9th his firm will occupy new and larger quarters at 6373 DeLongpre Ave., (near Nvar), Hollywood.

Natural Lighting

(Continued from Page 105)

ground by the fire, and concealed by the men sitting in the left foreground. Lamp No. 2, a Dinky, similarly placed, illuminated the man standing at the left, while No. 3, another Dinky, highlighted the two men sitting (left) by the fire. Lamp No. 4, a Baby Keg placed high on the lamprail, at the back left, was used to rim-light the players at left and canter-foreground. Extremely soft front-lighting was provided by lamp No. 5, a heavily-silked broad.

The background was highlighted by lamp No. 6, a Baby Keg placed high at the right and crossed, while the backing was illuminated by No 7, another silked broad

The point which I hope these somewhat obvious examples discussed will make is this: that these natural source-lighting effects, together with many similar ones they will suggest, would have been absolutely impossible previous to the introduction of today's high-speed emulsions and the smaller lighting-units the speed of these films make possible. I am very sure that many scenes closely paralleling the photodramatic requirements of the ones discussed have come up frequently in the past experience of almost every cinematographer. If we look back at them, we can see from our own experience just how badly we were hampered by the technical limitations of the materials with which we then had to work—how we were forced to approximate the "natural" effects we wanted, rather than obtaining them in actuality.

In this connection, a rather interesting thought strikes me. Cinematographers have always looked forward to the day when they could get truly natural light-effects, and employ substantially natural levels of illumination. Today, thanks to these modern technical developments, we have come incredibly close to being able to achieve this long-sought goal. While average interior light-levels are of course subject to considerable variation, due to differences in the methods of individual directors of photography and to the processing standards of the different laboratories which handle their film, a surprising majority are working only slightly above normal practical room-lighting levels. As a matter of fact, I am informed that some cinematographers who work under conditions permitting exceptionally low light-levels have at times had to wire the practical lights in their sets through dimmers in order to cut down the intensity of these normal lamps to match the levels of the photographic lighting!

Finally, it should be pointed out also that this remarkable development of the past few months has in addition to its artistic benefits, very definite technical and economic advantages as well. By eliminating the need for high illumination levels and the larger and bulkier lamps necessary to obtain them, we have at the same time eliminated the necessity for many of the makeshifts formerly necessary to make these larger lamps adaptable to the fine, precision lighting these effects demand. I doubt if the precise difference in either time or production-cost has been or, for that matter, could be accurately estimated. But it must be obvious that the time formerly spent in figuring out how to position a large lamp so it would produce some of these precision effects just discussed, without interfering with any other phases of the lighting on people or set, and then confining its beam to the exact small area where the light would be needed, by means of goboes, flags, shades and similar auxiliaries—to say nothing of reducing it to the right intensity by means of diffusers and the like—would be very considerable when compared to the modern method of simply concealing a Dinky within the scene at whatever point might be necessary to produce just the right effect.

Summing the matter up, we can consider ourselves most fortunate that we can today reap the benefits of these recent advances in film, lenses and lighting equipment, which on the one hand make it possible at last to light with the precision necessary to obtain really natural lighting effects, and on the other, so greatly simplify and expedite the work of the director of photography and his stage crew. In all probability we have not as yet been using these new materials and methods long enough to obtain—or even understand—their full benefits; but even so, we can realize that we have in our hands something which must inevitably lead on to genuine advancement in the art and science of cinematography. END

Editor's Finder

(Continued from Page 114)

par, that was his fault — the film couldn't be to blame!

Today, how different is the situation! With three or four different companies actively competing for the industry's raw-stock business, the film-using technician—cinematographer, recordist or laboratory expert—has everything offered him on a silver platter. Film—? There's lots of it: specialized emulsions for every conceivable service. A few months ago, setting out to make photographic tests of one single company's picture-negative emulsions, this writer found himself provided with no less than *eight* different emulsion types, including normal-speed panchromatic, high-speed "production type" panchromatic, super-speed panchromatic, a slow-speed "outdoor type" pan, a fast ortho "chrome" type, a reversible panchromatic, and infra-red. The recording engineer has an almost equally broad selection: he can choose an emulsion specifically fitted to the particular recording problem and system involved. Even in the most recently-evolved "fine-grain" positive and recording stocks, there seems to be an emulsion to suit everyone's individual needs: in a recent chat with the writer, one leading film-merchant remarked that his company handled no less than

seven different fine-grain emulsion-types.

As regards service, we're almost overwhelmed with it today. Every film manufacturing firm maintains a staff of crack technical experts in Hollywood Is there something you don't know about speed, gradation, filtering, or developing—? The merest whispered hint, and these experts are at your elbow with the answer, even if it meant working all night or throughout a week-end to get the answer in time for your shooting call. Is there something wrong with the results you're getting—? Again, these experts delve into the problem, and find you the answer, regardless of whether it vindicates or condemns their product. We've known of instances in which these men have ordered the calling in of an entire emulsion and its free replacement with a better coating—a matter of several million feet of expensive film which only a few years ago would have been defended as "good enough." Does your laboratory need hints on how to get the best out of your negative—? Again the film expert steps into the breach for you. Don't forget that the first and for a long time the only sensitometers in Hollywood were those installed by the raw-stock firms, and which are still operated, day or night, without charge to help the users of film.

Yes, the sales or technical representa-

tive of a modern raw-stock company is a good fellow. He's a fine partner at golf or bridge, and a good conversationalist at the lunch-table. But he's more than that—he is today a man without whom the technical and creative activities of every film-user in the industry would be crippled, a man who gives an indispensable service, and gives it cheerfully, without hope of reward or publicity. Again—we wonder if we really appreciate these men and the vital, if unsung part they play in making our work with camera, recorder or developing-machine a success?

Growing Pains

(Continued from Page 107)

even *Fantasia*—they become inevitable.

The *Silly Symphony* series was launched in 1929. In *Mickey Mouse* cartoons, we kidded the modern scene. The material was limited. We wanted a series which would let us go in for more of the fantastic and fabulous and lyric stuff. The *Silly Symphony* didn't give *Mickey* much competition until we added Technicolor in 1932. We thought that color would be worth the heavy extra cost. Color was part of life. A black-and-white print looked as drab alongside *Flowers and Trees*, as a gray day alongside a rainbow. We could do things with color! We could do many things with color that no other medium could do.

I remember Roy coming into the office about this time with a bunch of figures in one hand and eyes full of patient resignation. "How come," began Roy, "how come that last year with thirty men we made thirty pictures, and this year with over a hundred and fifty, you get out only eighteen?" I can't answer that type of question, but the surest way to take Roy's mind off past and present troubles is to tell him that we need a lot more money in the immediate future. Roy has the greatest confidence in me, in our medium and in our future, but he is a business man and doesn't like to live dangerously twelve months out of the year. In this instance, three little pigs and a big, bad wolf were soon to bring him days of peace—not many days, but a few.

The Three Little Pigs was released in 1933. It caused no excitement at its Radio City première. In fact, many critics preferred *Noah's Ark* which was released about the same time. I was told that some exhibitors and even United Artists considered *The Pigs* a "cheater" because it had only four characters in it. The picture bounced back to fame from the neighborhood theaters. Possibly more people have seen *The Pigs* than any other picture, long or short, ever made. So you get an insight into the short-subject business when I tell you that *The Pigs* grossed only $125,000 its first year. *Snow White* grossed over seven million. That's the difference between shorts and features from the profit angle. The low rentals for short subjects has been a chronic headache for us. Our only solution has been to build our prestige through quality to the point where public demand forced the exhibitor to pay more for our product. Theaters paying two or three thousand a week for a feature may pay us only a hundred or a hundred and fifty dollars for a short. Gentlemen, I ask for justice.

Whatever the reason for *The Pigs'* astonishing popularity, it was an important landmark in our growth. It nailed our prestige way up there. It brought us honors and recognition all over the world and turned the attention of young artists and distinguished older artists to our medium as a worthwhile outlet for their talents. We needed these men for future growth, and they came from all over the country to join our staff and be trained in our ways.

The success of the *Three Pigs* was felt throughout our entire business. The income from all our pictures and from merchandising royalties took a sharp upswing. The magazine *Fortune* declared that our net profit for 1934 was $600,000 and I'll take their word for it. That's chickenfeed in Hollywood, but we are strictly small fry. We poured the money back into the business in a long-range expansion program pointing at feature-length production and the protection of our new prestige through constantly increasing quality. The *Mickeys* went Technicolor. We enlarged our training

school and began a nation-wide advertising campaign for young artists. The production costs on our *Symphonies* shot skyward until some of the little pictures approached the ridiculous figure of $100,000. But the quality was there, and by 1935 even the *Three Little Pigs* looked dated and a bit shabby in comparison with the newer *Symphonies*. Our staff at this time numbered around three hundred. A greater degree of specialization was setting in. The plant was becoming more like a Ford factory, but our moving parts were more complex than cogs—human beings, each with his own temperament and values who must be weighed and fitted into his proper place. I think I was learning a great deal about handling men; or perhaps the men were learning how to handle me. But let me tell you this—young artists are just as reasonable and easy to handle as anybody else. Our temperament goes into our job.

We had our technic well in hand. We had learned how to use our tools and how to make our characters act convincingly. We had learned a lot about staging and camera angles. We knew something about timing and tempo. But a good story idea, in our business, is an imponderable thing. It seems to be largely made up of luck and inspiration. It must be exceedingly simple to be told in seven or eight hundred feet. It must, above all, have that elusive quality called *charm*. It must be unsophisticated, universal in its appeal and a lot of other things you can't nail down in words but can only feel intuitively. *The Three Little Pigs*, *The Flying Mouse*, and *The Grasshopper and The Ants*, were examples of good stories. I used to feel at times that there wasn't another good story idea left in the world which could be told in eight hundred feet. The *length* limitation of the *Symphony* became more and more galling. We were batting story ideas around for months and sometimes years trying to get the certain twist, the lacking element, or whatever the idea needed to make it a good story. Our files were filled with abandoned stories on which we had spent thousands. It was inevitable that we should go into feature-length pictures if only for the unlimited new story material this field held for us.

I thought we could make *Snow White* for around $250,000. At least that's what I told Roy. The figure didn't make sense because we were spending about that much on every three *Symphonies* or 2500 feet of picture. Roy was very brave and manly until the costs passed a million. He wasn't used to figures of over a hundred thousand at that time. The extra cipher threw him. When costs passed the one and one-half million mark, Roy didn't even bat an eye. He couldn't; he was paralyzed. And I didn't feel very full-blooded, either. We considered changing the name of the picture from *Snow White* to *Frankenstein*. I believe that the final figure, including prints, exploitation, *etc.*, was around two million. We sort of half-way explained this to everybody by charging a million of it off to research and development. You know, building toward the future. And this was true, although we hadn't exactly planned it to be that way. Webster sums up the spirit of the *Snow White* enterprise in his definition of adventure at the beginning of this article—"risk, jeopardy; encountering of hazardous enterprise; a daring feat; a bold undertaking in which the issue hangs on unforeseen events, *etc.*"

As a matter of fact, we were practically forced into the feature field. We not only had to have its new story material, but also we had to have feature profits to justify our continuing expansion, and we sensed that we had gone about as far as we could in the short-subject field without getting ourselves in a rut. We needed this new adventure, this "kick in the pants," to jar loose some new enthusiasm and inspiration.

Research and preliminary work in a small way had begun on *Snow White* as early as 1934. I picked that story because it was well known and I knew we could do something with seven "screwy" dwarfs. Beyond that, we didn't know exactly where we were going, but we were on our way. The picture was released at the turn of the year, 1937-38. At the end of its first year, *Snow White and the Seven Dwarfs* was reported to be the biggest money-maker of all times. It at least settled the question as to

whether or not an audience could or would sit through an hour and thirty minutes of animated pictures. Most of the bets were that an audience would go blind. As a matter of fact, that question had been settled as early as 1935, when European audiences lined up in long queues to see a two-hour bill of our shorts. This bill ran for seventeen weeks in Stockholm, and similar all-cartoon bills have been quite successful in this country.

At the time of *Snow White's* release, our staff had grown to about six hundred. Having committed ourselves to a program of both features and shorts, it became necessary again to expand drastically. An additional eight hundred people were added to our payrolls in the next two years. For more studio space, we were forced to lease a row of apartment houses adjoining the studio, and other temporary buildings were erected on the lot. We needed a new studio and in a hurry. Not only did we need more space and more buildings, but the increasing emphasis on the technical side of our craft demanded the most modern and specially designed type of buildings and equipment. The new plant was started in 1939 on fifty-one acres near the Los Angeles River in Burbank. We moved in around the first of 1940.

The two years between *Snow White* and *Pinocchio* were years of confusion, swift expansion, reorganization. Hundreds of young people were being trained and fitted into a machine for the manufacture of entertainment which had become bewilderingly complex. And this machine had been redesigned almost overnight from one for turning out short subjects into one aimed mainly at increased feature production.

Produced under such conditions and forced to bear its share of this tremendously increased overhead during a two-year period, *Pinocchio* cost something over three million dollars. Suddenly, the world war wiped out half our markets. *Pinocchio* is yet to return its original investment. It has been called a flop. Actually it was the second biggest box-office attraction of the year. *Gone with the Wind* was first. *Pinocchio* might have lacked *Snow White's* heart appeal, but technically and artistically it was superior. It indicated that we had grown considerably as craftsmen as well as having grown big in plant and numbers, a growth that is only important in proportion to the quality it adds to our product in the long run.

The large profits from *Snow White*, short subjects, and the mounting royalties from our merchandising enterprises, had all gone back into the business to pay for the new studio and expansion program. Our payroll had risen to around three million a year. The war had cut our potential picture profits in half. The crisis was on. Another one. It was brought on by what might reasonably be called reckless expenditures. Yet, looking at it our way, it is these expenditures that have put us in shape for the storm. Instead of the one feature-length picture every two years which seemed the limit of our capacity two years ago, we are now reorganized and equipped to release nine features in the next two years, each at a fraction of *Pinocchio's* cost.

The first of these nine features, *Fantasia*, has been released. We have never been so enthusiastic about a picture. Every picture is an adventure, but *Fantasia* has certainly been our most exciting one. We take great music and visualize the stories and pictures which the music suggests to our imaginations. It is like *seeing* a concert. Leopold Stokowski and the Philadelphia Orchestra recorded the music, using a new system of sound recording and three-dimensional reproduction called *Fantasound*. It is our intention to make a new version of *Fantasia* every year. It's pattern is very flexible and fun to work with—not really a concert, not vaudeville or a revue, but a grand mixture of comedy, fantasy, ballet, drama, impressionism, color, sound, and epic fury.

Mickey Mouse and Disney in the same boat with Bach, Beethoven, Stravinsky, and Stokowski! Well, where do we go from there? I haven't the faintest idea. I have never had the faintest idea where this business would drag me from one year to the next. It's at the controls,

not me! But, as I said before, as long as we keep on growing the future will keep opening up. More than any other picture, *Fantasia* shows how much the medium has grown. No doubt, some unimaginative critics will predict that in *Fantasia* the animated medium and my artists have reached their ultimate. The truth is quite to the contrary. *Fantasia* merely makes our other pictures look immature, and suggests for the first time what the future of this medium may well turn out to be. What I see way off there is too nebulous to describe But it looks big and glittering That's what I like about this business, the certainty that there is always something bigger and more exciting just around the bend; and the uncertainty of everything else

Over at our entertainment factory we are training hundreds of brilliant youngsters to carry on the job far beyond where we old-timers must leave off They will train other youngsters. There is no knowing how far steady growth will take the medium, if only the technicians continue to give us new and better tools For the near future, I can practically promise a third-dimensional effect in our moving characters. Fully exploited, *Fantasound* should prove a startling novelty. The full inspiration and vitality in our animators' pencil drawings will be brought to the screen in a few years through the elimination of the inking process. This is the promise of the next few years, beyond that is the future which we cannot see, today.

AMONG THE MOVIE CLUBS

Synchronized Sound in Philly

February meeting of the Philadelphia Cinema Club showed a 16mm. Kodachrome film, "A Night in Florida," synchronized to music and speech by means of an inexpensive indicator attached to the turntable, demonstrated by the Club's Secretary, George Pittman. Other principal feature of the evening was the presentation by program-committee Chairman Francis Hirst of the recently-announced Eastman Kodak Co. Lecture on "What Can We Learn from the Professional Producer?" Complete analyses of the winning films in the Club's recent contest were presented, and plans were laid for attending en masse the first banquet of the nearby Trenton, N. J., Movie Club.

GEORGE A. PITTMAN, Secretary.

L. A. Sees 3-Club Exchange Show

The February meeting of the Los Angeles Cinema Club was featured by exchange of films with two other clubs. The Los Angeles 8mm. Club loaned three of the prize-winning films from their Annual Contest—"Reaping the Raindrops," (Kodachrome) by Lewis B. Reed; "Blasto," (black-and-white) by Paul W. Cramer, and "Souvenir," (Kodachrome) by Harold E Remer An entertaining added feature was a special showing of a 50-foot 8mm. reel on "Common Movie Errors," made by Thomas Griberg, of Moline, Ill., and obtained through THE AMERICAN CINEMATOGRAPHER on loan from the Tri-City Cinema Club of Rock Island and Moline, Ill., and Davenport, Ia.

Major features of the evening were showing of the 16mm. Kodachrome sound-film "Sailplane," described in last month's issue of this magazine by its maker, James H. Love, and "In All the World," feature-length Kodachrome sound film of Glacier National Park filmed by William S. Yale, of St. Paul. (See P. 116.)

JACQUES SHANDLER, Secretary.

San Francisco Has Varied Program

Features scheduled for the February meeting of the San Francisco Cinema Club included a 400-foot Kodachrome film on "A Pack Trip in the High Sierras," by Member Fred Youngberg; a 200-foot 8mm. Kodachrome film entirely of flowers, filmed by Member H. T. Hennig; and a 600-foot. 8mm. black-and-white film made by prospective member N. Schwartz in Europe imme-

diately before the war, and including scenes in France, England, Italy, Germany and Switzerland, and presented with a running commentary by its maker. The Club's March meeting, it is announced, is to feature a contest on "Home and Family."

JOHN B. SMURR, President.

Tri-City Cinema Club

February meeting of the Tri-City Cinema Club (Rock Island and Moline, Ill., Davenport, Ia.) featured presentation of Eastman's new illustrated lecture on "What Can We Learn from the Professional Producer?" and the showing of "Spring, Summer, Autumn," 400-ft 16mm. Kodachrome by O. C. Peterson, Davenport; "How to Use Your Camera," from the Harmon Foundation; and various films submitted by club members.

ALBERT N. MUELLER, M.D., President

Minneapolis Celebrates 5th Birthday

On February 18th, the Minneapolis Cine Club celebrated its fifth anniversary with a dinner at the Hasty-Tasty Cafe, under the direction of the newly-elected program committee chairman, Russ Duncan, with Walter Briggs as MC. Film fare included films of the Club's early years, gathered by President Davidson; a duck-hunting reel contributed by Ormal Sprungman; and a lecture on lights, lighting, film and filters by Barney Skomars, of the Eastman Kodak Stores.

ROME A. RIEBETH.

L. A. 8mm. Has Old-Timers' Nite

The February meeting of the Los Angeles 8mm. Club was under the direction of co-founder Claude W. A. Cadarette, who prepared a special program of outstanding early films made by some of the Club's first members. Included among these were "El Camino Real," by John E. Walter; "Jealousy," by Claude Cadarette; "The Insomniac," by co-founder Milton Armstrong; and Dr. F. Robert Loscher's AMERICAN CINEMATOGRAPHER Contest Grand Prize Winning, "Red Cloud Lives Again." As a special, added attraction a 16mm. sound Kodachrome film, "In All the World," filmed by William S. Yale in Glacier Park, was shown. New members admitted to the Club included Raymond Daum, Gaetano Faillace, Gertrude Millar, J. F. O'Brien and John Strong.

BETTY BARNEY, Secretary.

Australia Hears Sherlock

Bulletins from the Australian Amateur Cine Society indicate that the Society's January meetings included a premiere showing of James A. Sherlock's film "The City of Sydney," and Ken Murray's films, "Swiss Towns in Winter," and "London in Wartime." The February meetings scheduled a talk on filtering for both monochrome and Kodachrome by J. A. Sherlock, and ravivals of "Sunshine Over Sydney," and Tsukamoto's "Autumn Around Fuji."

Meters for St. Paul

Scheduled speaker for the February meeting of the St. Paul Amateur Movie Makers Club was Mrs. O. N. Olson, who was to give a talk on "How to Use a Light-meter to Get Good Results." Arnold Elvrum was scheduled to show his color-film, "Tropic Fairyland," made recently in Florida and Cuba.

WALTER GAYMAN, Secretary.

Minneapolis Octo-Cine Guild

Minneapolis' exclusive 8mm. aggregation, the Minneapolis Octo-Cine Guild, began 1941 with a meeting on January 28th at which Eastman's film, "Highlights and Shadows," produced and photographed by Dr. J. S. Watson, Jr., A.S.C., was shown. The Octo-Cine Guild appears also to be indulging in a friendly argument with the Minneapolis Cine Club as to which held the country's first 8mm. show in a theatre-size auditorium (See Jan. issue, Ed.) The Octo-cines point with pride to their show held at the Minneapolis YWCA Auditorium in March, 1940.

Bardwell-McAlister Expands

To meet the demands of increased business, not only in the motion picture industry but with special items recently developed for the War Department, Bardwell & McAlister, Inc., have recently leased the large building adjoining their quarters at 7636 Santa Monica Blvd., Hollywood. The new space will be used for assembly of equipment as well as the firm's sheet-metal department and store-room.

Photophone Develops New Panoramic Sound

MUCH of the thrilling realism of RCA Fantasound, developed especially for Walt Disney's "Fantasia" may soon be available to neighborhood dime-admission houses as well as metropolitan film palaces through the medium of RCA Panoramic Sound, according to Edward C. Cahill, Photophone Division Manager.

Actually a simplified version of RCA Fantasound, RCA Panoramic Sound utilizes auxiliary amplifiers, and loudspeakers to the right and left of the screen, or at other locations in the theatre, and simplified automatic control units installed in standard film sound-heads. The auxiliary equipment is controlled by a special "cue" sound-track on one side of the film. It was developed in the RCA Research Laboratories.

Speech is reproduced in the conventional way from a standard sound-track over the regular system. For music, sound-effects and other selected sequences the auxiliary loudspeakers are called upon to reproduce the same program-material supplied to the regular channel. Thus, an orchestra portrayed on the screen sounds as though it were actually on the stage, since the sound comes from as wide a source on the stage as the orchestra itself would occupy.

RCA Panoramic Sound principles have been applied experimentally by Warner Bros. in "Santa Fe Trail," now being released. Establishment of film standards by the Academy of Motion Picture Arts and Sciences must precede its general release to the industry, Mr. Cahill explained.

"Panoramic Sound supplements modern standard sound systems at a small fraction of the cost of the elaborate Fantasound system," Mr. Cahill said. "It does not render obsolete nor unnecessary any component parts of the standard sound system. In fact, in the case of RCA Photophone soundheads, the single attachment required fits into mounting screwholes already provided. Panoramic Sound vitalizes screen entertainment by a practical and not too expensive method."

Heart of the system is the control track. (Because of its location along the sprocket holes, this track does not interfere with running the Panoramic film on standard sound-head systems, with the same reproduction as is provided by ordinary sound film.) The degree to which this track is blacked determines when the auxiliary channel feeding the additional amplifiers and loudspeakers comes into play, and how loudly it is made to reproduce. It also controls the amplification of the regular system, thus increasing the dynamic range of the sound reproduction from that part of the system as well.

The only alteration to the regular system, other than the simple sound-head attachment, is the insertion of an auxiliary variable-gain amplifier in the link circuit between voltage and power amplifier.

Flying Laboratory

(Continued from Page 113)

veloping, stopping, fixing and rinsing.

It took a total of two minutes, 35 seconds to process the film, 30 seconds more to squeegee it, and from 5 to 10 seconds for printing. Now it takes 20 seconds to develop the print, 20 seconds for stop bath, 15 seconds for fixing, and 5 seconds for rinse.

Drying the print is eliminated because the paper used is wax-treated so that it sheds surplus moisture. The print is thus immediately ready to be placed in a light metal tube container with sponge rubber shock absorbers, and dropped over the side to the ground.

The time totals 4 minutes and 15 seconds. Wright Field officials have clocked the complete process in under five minutes, including the time required for transferring the negative and print through the various stages of the processing.

Quick photography, Air Corps style, has been a subject of research ever since days of the old McCook Field laboratories in Dayton in the early 1920's. The first quick photograph of unusual significance was made by Major George W. Goddard, head of the laboratory, and cameraman Ben Thomas, also of the laboratory. It was a picture for President Coolidge, made at Dayton, from an airplane. The plane followed the presidential train to nearby Xenia, where the finished print was dropped to the station and handed to the president.

In 1929 Air Corps photographers made night pictures over Washington, processed them in the air and dropped them to be telephotoed to eight cities in this country. Yet another display of quick photography was in 1930 when the city of Sacramento, California, was photographed from the air, a negative was developed within 12 minutes in the plane and was dropped to waiting newsmen. The photograph was reproduced in a newspaper which was on the streets within an hour! Then in April, 1940, at Wright Field, a demonstration of quick photography, using the direct positive method, was broadcast over the radio network as part of the celebration of Army Day.

While the idea is not new, the present-day speed of the process clearly indicates improved methods and equipment. And the end is not yet; the photographic laboratory has more tricks in its bag. A new type photographic paperholder is being experimentally produced, which will eliminate the need for the hood over the printer. The new holder will have the sensitized paper pasted in place, so that it can be laid on the contact surface, the top can be brought down, and then the slide pulled from the holder to make the exposure. As soon as the exposure is completed, and the paper is processed in the four tanks, holder and all can be dropped to the ground, with a streamer attached, thus making unnecessary the use of the tube container. The new holder will be of plastic, or some similar material that may be discarded without great loss, after a single use.

The laboratory men are continuing to work, too, on papers, films and chemicals to obtain still higher speeds. Eventually it is possible that the direct positive method will again be used, assuming that the limited emulsions, now the best obtainable, can be superseded by new emulsions which will give a wider range of daylight hours and a wider range of exposure. Decidedly, when the Army's flying photographers go out to make a shot, they not only bring it back—but bring it back in a hurry!

Showcase

(Continued from Page 125)

10 watts, and operates only on alternating current, 50 to 60 cycle, 100 to 125 volts. Projector and speaker are built into one compact case divided into two sections, one of which houses the 10-inch permanent-magnet speaker, the other serving as a platform for the projector. Space for the 1600-foot reel and the usual accessory equipment is provided in the case.

Other features of this projector include an oil-floated flywheel to assure uniform movement of the film past the sound gate, even, it is stated, when there are minor fluctuations of line current; fidelity control for accurate focusing of the sound-scanning beam when either original or reversal-duplicate films are used; a high-low switch for various line voltages, and similar modern refinements.

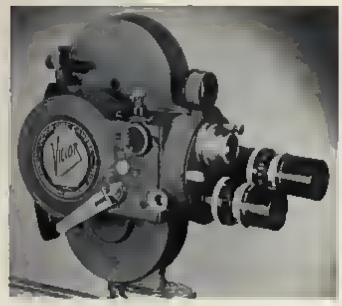
The other models include these basic features, plus various other mechanical and operating refinements. Model F, for example, operates on either A.C. or D.C. over the same range of frequency and voltage as the Model FS-10 but includes a built-in motor-generator to create the right type of current for each of the various electrical units. It also has an electro-dynamic speaker, and a jack for microphone or phonograph pickup. Furnished in two cases, the speaker-case has brackets to hold a projection-screen.

Model FB is similar in construction to the Model F, but is mounted in a soundproofed blimp. Top of case conceals 4-inch supporting legs and lifts projector to proper level for clearance of 1600-foot reels.

Model FB-25 is similar to Model FB, but is available with either a single 12-inch permanent-magnet speaker or with two of these units, allowing the full rated amplifier-capacity of 25 watts to be used. It also has a jack for microphone or phonograph pick-up.

Model FB-40 is almost identical in appearance with FB-25, but has rated capacity of 40 watts, operates only on

A.C., and is supplied with double 12-inch permanant-magnet speakers. Seperate jacks are provided for microphone and phonograph pick-up, each with its own control so that sound from either one can be mixed with sound from the film, or all three mixed simultaneously.



New Victor Camera

A series of modifications of the well known Victor 16mm. camera have been worked out which are of sufficient importance to warrant considering it as a new camera. Designed to meet the needs of critical accuracy at all speeds for scientific purposes, this new development brings 16mm. camera performance to a new high.

The new unit, called the "Aircraft" model is stated to turn in results of remarkable accuracy at all speeds over a range of temperature down to zero and even lower. Victor engineers report that the speed tests were made in a cold-storage warehouse at —10° and the camera was left overnight to simulate the toughest conditions likely to be encountered in practice. The speeds were tested with a neon-type stroboscope and the settings of the instrument were not touched during the run at any speed. Even at the end of the winding the speed was, it is reported, still so close as to cause only a very slow "creep" under the stroboscope. This is held by the Victor engineers to be so accurate that time intervals for most scientific purposes can be obtained merely by counting frames, without the necessity for supplementary timing devices. The value of this for all research work is apparent. The new camera should also be found very useful for sport pictures such as analyzing one's golf stroke, etc.

In the previous model Victor cameras the starting button was turned to set the speed of the camera, and when depressed to start the mechanism it also placed a tension on the film gate. In the new model the speed is set by a separate dial clearly visible in the illustration, while the other functions of the starting button were retained.

To accomplish the new standards of accuracy and control, new bearings of an advanced type were used throughout, and a new governor was evolved together with such features as a lock on the starting button to hold it down at any operating speed, or to lock the button in the safety position when the camera is not in use. The new unit was worked out as a result of the efforts of R. Fawn Mitchell, well known motion picture engineer who recently joined the Victor staff. Deliveries are now being made and the response of those who have tried the new camera is reported to be anthusiastic.

Idea Exchange

(Continued from Page 124)

equipment, but I think some of your readers may be interested in it anyhow.

A universal remote-control device for movie and still cameras is often very useful. It will permit you to get into the picture yourself, or to put the camera, say, at some distant point on your car for making running-shots, or to photograph single-frame animations, and the like.

With the cooperation of my brother, whose hobby is fine machine-work, I have developed the remote-controller shown in the picture. The drum-shaped housing contains a spring-operated escapement which through cams operates the projecting rod which in turn releases the camera's shutter, either directly, in the case of a movie-camera, or through a cable-release in the case of a still-camera. Since the "up" and "down" movements of this rod are set off by separate trips of the remote-control button, the device can be used to control any type of camera, regardless of whether its shutter-release is worked by pressing it up or down or, as in the case of the Filmo 8's, you get a steady run by pressing down, and single-frame stop-motion by pressing up.

The cylindrical housing contains a solenoid which works a trip that allows the spring-mechanism of the remote-controller to move the shutter-operating lever through one stroke. A small rod projects from this housing so that the trip can, if desired, be worked by hand. Since the shutter is released by the spring-and-cam mechanism, even working the device by hand doesn't jiggle the camera; the action is always smooth and uniform.

Normally, the solenoid trip is worked by a push-button electric contact at the end of a long wire which closes a circuit to the solenoid from a small portable-radio "B" battery.

For some kinds of interior filming I have found it convenient to have the remote-controller arranged so it will automatically turn my Photoflood lights on and off at the same time it starts and stops the camera. This has been done by adapting an ordinary automobile headlight-dimming foot-switch which for convenience is mounted on a block of wood. Contacts are provided by which the 22-Volt circuit from battery to remote-control solenoid can be wired through the switch, at the same time the regular 110-Volt line from the house circuit is also wired through it to the Photofloods. In use, this switch first closes the 110-Volt circuit, turning on the Photofloods, and then makes another contact with the same stroke, operating the remote-controller. The next pressure on the switch turns off the lamps and stops the camera. My brother and I had lots of fun making and refining this gadget, and I have since had even more pleasure using it as shown in the illustration.

DUDLEY E. PORTER.

Glacier Park

(Continued from Page 117)

that if you get the right exposure for your foreground, the sky will go fairly dark anyway. So it takes only moderate

filtering to produce overcorrected effects which would at lower altitudes call for much heavier filtering. By all means be conservative in your filtering, or you'll find your scenes consistently overcorrected.

"There's one thing, though, in which filtering can be a definite help in black-and-white filming in Glacier Park. That is in shooting the Indians. As I have already mentioned, they have pretty dark coloring. If you use a filter like a G, or even a fairly heavy yellow filter, you can lighten up the rendition of those dark skins amazingly.

"And speaking of the Indians, they are very cooperative to camera-using visitors. Several tribes live right in the park, and put on regular ceremonials at frequent intervals. The most important of these is the annual Sun Dance, for which the entire Blackfoot nation assembles during July. Sometimes there are several thousand Indians gathered together for this important ceremony, which they enact exactly as their forefathers have done it for generations uncounted. The Sun is one of the principal Blackfoot deities, and invoking his blessing, they raise a sacred Sun lodge, and then with dances and barbaric songs, invoke his aid through the coming season.

"But lesser dances and ceremonials are held almost daily, in places near the many hotels and camping-places. Most of these dances, too, are staged in spots where a wise cameraist can select angles that will conceal all traces of modernity and tourists, and obtain striking pictures of life as it was before the white man came.

"The Indians are very cooperative to camerists, too. Unlike some of their fellows in other parts of the country, the Glacier Park Blackfeet have no objection to posing for stills and movies, and a few cartons of cigarettes strategically distributed among the braves will assure their complete cooperation in re-enacting any action you may want for close-ups, etc. As a matter of fact, if they like you (and the cigarettes hold out) they can be persuaded to adopt you ceremoniously into the tribe, painting the medicine-signs of earth, sky and water on your face, and giving you a sonorous Indian name. This ceremony, by the way, makes a most interesting picture—especially if one of the adoptees is (as is often the case) a pretty girl!

"Photographically, you'll find it is best to plan things so you can film any scenes of the Indians in either the early morning or late afternoon. At these hours, the sun's light strikes more obliquely, and you can avoid the inky-black face-shadows you'd get at others times under the imposing feathered war-bonnets of the chiefs and braves.

"For that matter, morning and evening are the best times for filming most of Glacier Park's scenes, due to atmospheric conditions, and at noon it's a very good idea to lay the camera aside and indulge in a good meal at one the inns. Not only is the noon sunlight—as it is everywhere—from such a high angle that it gives an unpleasant top-light, but the thinner air of the high altitude tends to make noon shadows go an impenetrable, inky black.

"Oddly enough, Glacier Park's scenery seems to have been laid out with photographic requirements in mind. The park, as you know, straddles the backbone of the Rockies. And practically all of the scenes on the east side are shots for which the lighting is naturally most favorable in the mornings, while on the west side you get the best lighting in the afternoons.

"Most 16mm and 8mm filmers—especially when they are shooting in Kodachrome—like to include at least one spectacular sunset in each vacation reel. I don't know another spot in America which offers sunsets so spectacular! If you have a tripod, I'd recommend setting the camera up on it some evening and trying a stop-motion shot of a sunset. If your camera has a single-frame release, use it to shoot the sunset, exposing a frame every minute or so. If it hasn't this fitment, you can often get pretty much the same effect by giving the release only a very quick, light touch so that at each touch only a frame or so is exposed, In either case, the result on the screen will be shot in which the sun moves quickly to the horizon and then drops out of sight, while the sunset colorings shift and change magically on the clouds until the afterglow dies out. It makes a perfect ending for your Glacier Park film." END.

Scenario Films

(Continued from Page 119)

screen tests From the many applicants we picked our cast.

A bit of prowling round the waterfront brought to light an old barge which served as the location for most of our scenes. We also needed a yacht for the background of some sequences, so we went to the nationally famed yacht builder, Joe Fellows, in Wilmington, and received his full cooperation—yacht and all.

This story, by the way, was to be a full length feature—the third so far in the Club's history. "Danny's Mistake," "Camera Clickers" and "Tramp's Triumph" were all shorts, running from 100 to 150 feet 8mm., or 200 to 300 feet, 16mm. But "Suzanna" was to be a real feature of 400 feet of 8mm. or 800 feet of 16mm.

Our scenario was built around a retired seafaring gentleman, one "Captain Crockett," and his daughter "Suzanna," who make their home on the old barge. We opened our filming with "Suzanna" coming aboard the barge, excitedly informing her father that she had seen the villain, "Tony," on the dock. We introduced this character as the nasty person who had burned their boat up north, and thus placed the estimable Captain and his pretty daughter on the beach.

Nevertheless, the "Captain" assures "Suzanna" she must be dreaming, as "Tony" is safely put away in prison. They sit down for their morning meal, and then see in the morning paper an item stating that "Tony" has escaped from jail. The crotchety Captain gets thoroughly flustered at seeing this, and his Chinese cook even more so, excitedly pouring hot coffee all over his employer to give a comedy finish to the sequence

This, I might add, was a real hardship on our actors, for everything had to be done two or three times. We had fourteen cameramen filming this story, so we had to take shifts in shooting—seven to each filming—which meant that our actors had to give their all at least thrice: one rehearsal and two takes. As might be expected, at each take some of the fellows on the non-shooting shift would often feel that the players gave a better performance then than at the take when their own cameras were going. So a certain amount of good-natured grousing and controversy were quite the usual thing. But with so many cameramen, this couldn't be avoided—and anyway it helped make each man's version distinctively different!

To bring a bit of love-interest into our picture, we had a hero, "Jerry Mariner," trying to build up friendly relations with our heroine from his nearby yacht. Of course, we kept boy meeting girl—to say nothing of wooing her—until we had plenty of footage to convince the audience that "boy wants girl!" Also of course, opposition was placed in the path of true love by having the old Captain regard "Jerry" as a rich mollycoddle, not good enough for his daughter.

Once this was established, we got our drama under way swiftly. Following an excellent love-scene, "Suzanna," going back to the barge, is waylaid by the menacing "Tony," while at the same time the old Captain is busily telling "Jerry" off for daring to associate with "Suzanna." "Jerry" looks up, and seeing the villain trying to grab "Suzanna," he dashes off to protect the fair maiden. A well-paced fight sequence follows (no retakes on this!) and of course for picture purposes, "Jerry" must come out victorious.

When our menace comes to after his knockout, "Suzanna" is very affectionately telling her hero just how wonderful she thinks he is. "Tony" reaches for a gun and in best villain fashion takes a pot-shot at the Captain. The Chinese cook very nicely removes the gun and tosses "Tony" into the bay, while the other characters do all that is necessary for the traditional happy ending and osculatory fade-out.

This story has received excellent response wherever it has been shown—more favorable, we like to feel, than the average run of home movies. We admit we're rather proud of it; its continuity is smoother, the actors played their parts well, and it has an interesting finish and atmosphere.

Thus encouraged, by the spring of 1940 the group voted that they would rather make one good feature than two quickie shorts. Then the old problem—what to film! Prizes were offered for the best story submitted, and believe me, we had plenty. The chosen synopsis was finally turned over to the script committee and whipped into shape for actual filming. The official title was "Happy Landinge," but several of us have preferred other names, and are using them. My own version, for example, is called "Double Trouble," while other members are "relassing" their versions of the same story as "Two Girls," "Merry Mix-up," and various other titles.

Getting organized to film this one, all the camera-shooting members were numbered off; there were seventeen of us. All those with even numbers shot on the first shift, while those with odd numbers were on the second. The older members help the younger members, advising them how to set up their cameras, picking camera-angles, helping them with meter-readings, exposures, and the like.

Normally we shoot the end of the story first, as we are all anxious to see how to end it, and it somehow gives us a better perspective of how to build up the beginning!

We had several important sequences on the city's Rainbow Pier and along the seaside amusement district known as The Pike, so we applied to the City Dads for assistance, and received full cooperation, even to police escorts for our city filming.

We chose our cast by screen tests of high-school students and members of the local Players' Guild. All of our actors were, of course, amateurs. From our own group, those who weren't working on

cameras took charge of other technical details. Mrs. Fosholdt, for instance, was in charge of script; Clarence Aldrich and Ray Fosholdt co-directed; Midge Caldwell was in charge of locations; Dorothy and Mrs Rafferty were script-girls; and as usual, yours truly was prop-man.

Our story begins at a service-station, where our hero, "Jack," drives in with a snazzy new car to be serviced by his friend "Bruce." Because his partner is late, "Bruce" asks "Jack" to deliver a car for him.

The car's owner turns out to be a movie-actress. She is shown worriedly reading a telegram. "Jack" hands her the keys and starts off when she calls him and asks if he would do her a favor. Of course he says yes, and she informs him that her brother is two-timing his fiancee—and she has just learned that the fiancee is arriving on the afternoon plane. So will "Jack" please entertain the girl—? One look at a snapshot of her brings an enthusiastic response from "Jack," so the actress, thinking him a mechanic, hands him a generous roll of bills with which to take care of her missing brother's entertaining, and he leaves.

Back at the service-station, he shows the picture to his friend—and finds he has company on the job. They arrive at the airport together. "Jack" spies the girl he is to meet, and as he introduces himself as her fiance's friend, they stop beside a suitcase momentarily left by another feminine passenger. As they walk off, "Bruce," thinking the suitcase belongs to "Ann," picks it up and hurries off to give it to them, but they drive off before he can reach them. This of course opens the way for sequences showing the luckless "Bruce" thumbing rides, trying to catch up with them and deliver the suitcase.

Reaching town, "Jack" and "Ann" go to a de luxe hotel for cocktails. We had the full cooperation of one of the city's leading hotels for this sequence, and as a result secured settings and angles that could hardly be bettered in a Bollywood super-production.

Next, the young couple go down to the Pike, the beach-side amusement zone. Here again we had full cooperation from the various concessionaires, and we built up some fine footage showing the two enjoying the various "rides" and other amusements. It is up to each individual cameraman to use as much or as little of this action as he chooses, so you can imagine that in the various versions of this story, the two characters show quite a variety of tastes in sampling the Pike's pleasures!

Next we went to the Rainbow Pier, and with the aid of the Police Department we were able to cut the pier off from traffic from early in the morning until 1:00 p.m. while we filmed our story. The tramway that makes regular runs around the pier carrying passengers gave us the use of two trams—one to carry our actors, the other, travelling beside it, loaded down with cameramen and their equipment while we made running-shots of the happy couple.

After this, of course, we had to display our stars in bathing-suits, so we took them to the beach for a swim. Then back to the hotel to get their car. Just as they drive off, "Bruce," considerably the worse for wear, rattles up—again just too late—in an old Model T flivver in which he has thumbed another ride. Missing them once again, he appropriates a telegraph-messenger's scooter-bike and sputters off, hot on the trail, just as the Western Union boy comes out of the hotel and, seeing his bike vanishing around the corner, joins enthusiastically in the chase.

From here our two young lads go to the park where the actress friend is on location for a movie. To make this more or less convincing, we had the non-shooting half of our troupe turn actors, portraying the studio cameramen, director, and crew while the other half shot them. I'll wager no professional troupe ever used as many cameras on a single closeup as our fictional company did—!

Of course, just at this point the missing brother, accompanied by his local girl-friend, turns up, and in the ensuing confusion "Jack" has an opportunity to plant a hefty wallop on the deceiver's chin. After this, the movie-star sister tries to explain things to her friend, telling her "I hired this mechanic to entertain you." "Ann" is naturaly disgusted by the deception, but "Jack" smilingly reaches into his pocket, returns the money and keys to the glamour-girl, and tells her, "You didn't hire me—I'm not a mechanic, I'm an architect," and proceeds to proclaim his love for "Ann."

As the happy couple walk off through the park, "Bruce" at last catches up with them and offers "Ann" the suitcase which by this time is a little worn, with more clothes out of it than in. For the pay-off line, she says sweetly, "Why, that isn't mine," at which the long-suffering "Bruce" collapses and brings an end to the film.

All the official cooperation the Long Beach Cinema Club has enjoyed in making these productions may seem something very extraordinary for an amateur group, but I'm convinced that almost any really active group could obtain similar help in almost any city or town. Of course, the group must be composed of genuinely active filmers who are "regular fellows," and must have really active people at its head. That, we've been fortunate in having since the start, when Otis Hoyt organized the group in 1937 and became its first president. Clarence Aldrich was president for the two very active years of 1938 and 1939. Harold Hilliger proved a capable manager during his term as president in 1940, and for 1941, under our first lady president, Midge Caldwell, we seem off to another successful year.

We keep up interest in membership by having a limit of only 50 members, both 8mm. and 16mm. At present, there are slightly more eight millimeterists than sixteen shooters in our ranks. The club has purchased its own screen and its own projectors, both 8mm. and 16mm. Bell & Howells.

The dues are now $5 per year, and are used to purchase equipment, mail announcements and to furnish prizes for the best pictures every three months. Some prizes are also donated by local dealers. The Club's Directors view the various individual versions of the Club productions before showing them at meetings, and pick those they think are best. When the club showing is made, the audience votes to determine the winners. These winners are compared with the Executive Committee viewpoint, so that the members have a double check on the fairness of judging.

Making Club scenario productions this way means plenty of work—I can personally vouch for that, since I was elected projectionist, prop-man and, so to speak, general flunkey back in 1937, and

have for some reason been re-elected each successive year—but it's also grand fun And as we watch the screening of the films we've made together, and think of the friendships developed while working together to make them, I'm sure all of us are convinced that, given the right sort of a group, no other form of movie-making can compare with scenario productions—unlimited!

Sound Projection

(Continued from Page 123)

projector will be discussed in this chapter. Most sound projectors are produced by silent projector manufacturers, and the picture-mechanism and maintenance in both cases are similar, but perforations on sound film are on one side of the film only. On the other side of the film is the sound-track, therefore the claws and sprockets which move the film must act only on one side of the film.

16mm. sound projectors are usually the choice of business organizations, schools, and people who can afford the best projector. The quality of 16mm. sound projectors has been greatly improved and their cost is now only about 25% greater than good silent projectors. They are equipped with 1600 ft. reels and their operation is not much more difficult than silent machines, but because sound films are projected at a greater speed than silent pictures, they need more care in threading.

Before the machine is started, each sprocket should be examined to make sure that the film is correctly seated on the sprocket-teeth. Film-loops should be of the size recommended by the projector manufacturers. It is advisable to make doubly sure in threading the machine by turning the mechanism by hand before the power is switched on. This, by the way, is also a very good safeguard in silent projection as well.

The sound projector consists of two main parts, the sound-head and the projection-head, which, except for the above-mentioned fact regarding the sprockets and claws, is similar in design to silent projectors. The standard position for the sound gate is 25 picture-frames ahead of the projection gate. Instead of the film passing the sound-gate or scanning-beam by means of an intermittent movement, it is essential that the film passes this spot in a perfect even flow. Any vibration or irregularity in the movement of the film as it passes the scanning beam will be heard from the speaker as a rise and fall of pitch known as "wowing."

Most sound projectors have means whereby a microphone and a gramaphone pick-up can be plugged into the amplifier. This is an important accessory when public film-shows are contemplated, because good silent films with carefully-chosen musical backgrounds of a steady volume-level are equal to sound films containing dialogue.

Catalogues are issued by gramaphone companies which classify mood music and sound-effect records suitable for any film. These are helpful for people who do not have a wide knowledge of gramaphone records.

The double-turntable system of supplying music and sound effects for silent films is very simple and popular. Assembled outfits or parts for making the various units can be purchased with or without an amplifier, and it is advisable to use turntables so designed that the two pickups are wired in a manner which permits both records to be played together, and that a change from one record to another be possible without any break in the sound continuity. It will be appropriate at times to play soft music on one turntable, and sound-effects on the other. Any voice, sound-effect or music, can be recorded on discs made of a special material which can be played back immediately after a recording has been made. These special discs are not expensive and can be made by a portable recorder, or by sound studios specializing in this work. They must be played using a very light pick-up and a special "transcription needle."

When sound pictures are shown in public halls, schools, or large rooms, it is not always possible to prevent echo on short notice, but improvement may be effected in the acoustics of any room by lining it with celotex, furnishing it with carpet, or by draping the wall behind the projector with a heavy fabric. It will be noticed that the echo in a room containing smooth hard plastered or cemented walls is greater before the audience arrives, because human bodies and clothes act as sound absorbers. The average living room with its furniture, floor-covering and curtains, has the effect of eliminating a portion of the echo.

Some sound projectors are sold in an enclosed carrying cases which are more or less soundproof. These can be closed when the projector is running. Then if the noise is still troublesome it can be

minimized by placing the projector on a piece of rubber or felt.

It is difficult to determine the correct volume-level for sound when one is standing by a running projector. Therefore it is a wise plan to make a test before the show commences, by standing in a position which will be taken by a person sitting in the centre of the audience.

A bad splice might cause the fast-moving sound-film to become unseated. Therefore it is advisable to occasionally hold the index finger and thumb on the edge of the film at a spot near the take-up reel; by doing this, any torn perforations can be felt and the projector immediately stopped.

Placement of Speaker

The correct placement of a loud-speaker is not on the floor as is usually thought, but above the heads of the audience with the axis of the speaker cone falling about the centre of the audience. The amplifier of a projector uses tubes similar to those in radio sets, which in time, lose their efficiency, so they should occasionally be tested. It is advisable always to carry a spare set of tubes and an exciter-lamp. Projectionists should study their instruction-book and not meddle with the amplifier. If trouble develops, the manufacturer or dealer should be consulted It is advisable to keep a record of the hours the projector is used, and dates when oiled.

Particular attention should be paid to cleanliness. If the projector splashes oil, care should be taken that none of this comes in contact with the film. The exciter-lamp should be free from finger-prints, dust, or dirt, and sound films should be cleaned more frequently than silent films because dust affects the sound optical system. END

West Indies

(Continued from Page 127)

belong in the West Indies chain of islands, it is in the area and just off the coast of Venezuela and many cruise boats include it in their itinerary This is another island which would furnish enough material to make a complete travel reel. Curaçao is a island blessed with one of the finest protected harbors in the world for ships of all draughts. It is Dutch and a free port so there is great activity in trading. All tourists who go there take advantage of the duty-free provision which makes foreign articles unusually cheap. The principle of free trade is the basis of all Dutch settlements throughout the world and it is this feature that has made them prosperous and busy. Make this free trade angle your theme and you will have a new way to tie up ships coming, unloading cargo and departing and tourists looking and shopping.

Willemstad is the capital city and really looks like a bit of Holland transplanted to this hemisphere. It is built on either side of a narrow deep inlet which leads to the inner harbor. This waterway has almost as much traffic on it (in tonnage) as any four-lane highway in our industrial east. There is a pontoon bridge which swings open to let the boats pass and swings back into position to let crowds of people and automobiles get on their way again. The bridge is a feature which you can cover from many angles.

If you can get permission to go up into the signal tower you can work up a good sequence of ships coming and going and how the traffic is controlled to prevent collision. The opportunity to make loading and unloading scenes is endless down around the docks. A forceful way to illustrate just how important commerce is to Curaçao would be to build up a series of shots with men and women in various walks of life in the foreground and ships passing like city street traffic in the background You can find a barber shaving a customer and a ship through the window, or a business executive answering the telephone while a liner seems to pass right under the window. This idea could be carried out in as many situations as you feel necessary.

The Government buildings are most imposing and entirely different from anything you have seen elsewhere in the West Indies. Dutch Marines mount guard in front of the Palace and they too are different and good for a number of shots. There is a market that is unusual along the quay where small sail boats from Venezuela tie up and sell their goods to passersby.

The traffic court has a novel procedure. Small toy automobiles and trucks are used by the defendant and the prosecuting attorney to illustrate their sides of the story. The whole drama is excitedly reenacted on a desk right in front of the presiding judge who looks on sternly official.

The making of Panama hats is a long established industry in Curaçao and as they are generally made outside in the sun you will find it easy to cover.

Jamaica stands alone out in the Caribbean south of Cuba. It is easy to find fastures there. Waterfalls and beaches on the north coast are typically tropical with waving palms and verdant growth. You can make the same kind of cocoanut-harvest sequence here as you can on Trinidad One very unusual and distinctive feature can be found in the central plateau part of the island where a large herd of East Indian cattle are raised.

The foregoing can serve as a guide to those who might want to sail the West Indies this winter on a picture-taking cruise By no means do these constitute all of the available fastures, but I believe that they are the outstanding ones which you will want to photograph and this list might help you to plan so as to conserve your efforts and film.

Since you will spend many hours on shipboard, you will doubtless make all kinds of shots of the activities of your fellow passengers and the ship's crew. Such scenes as heaving anchor, dropping anchor, the whistle blowing, signal flags going up, officers taking sextant readings, the wake of the boat, sunlight on the water, sunrises and sunsets will fill in giving a smooth continuity from island to island. END.

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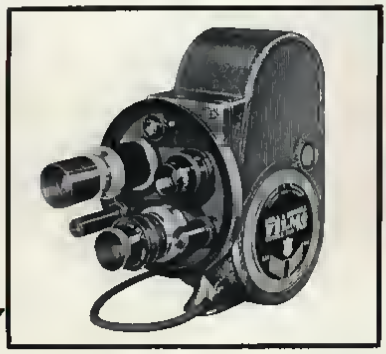

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